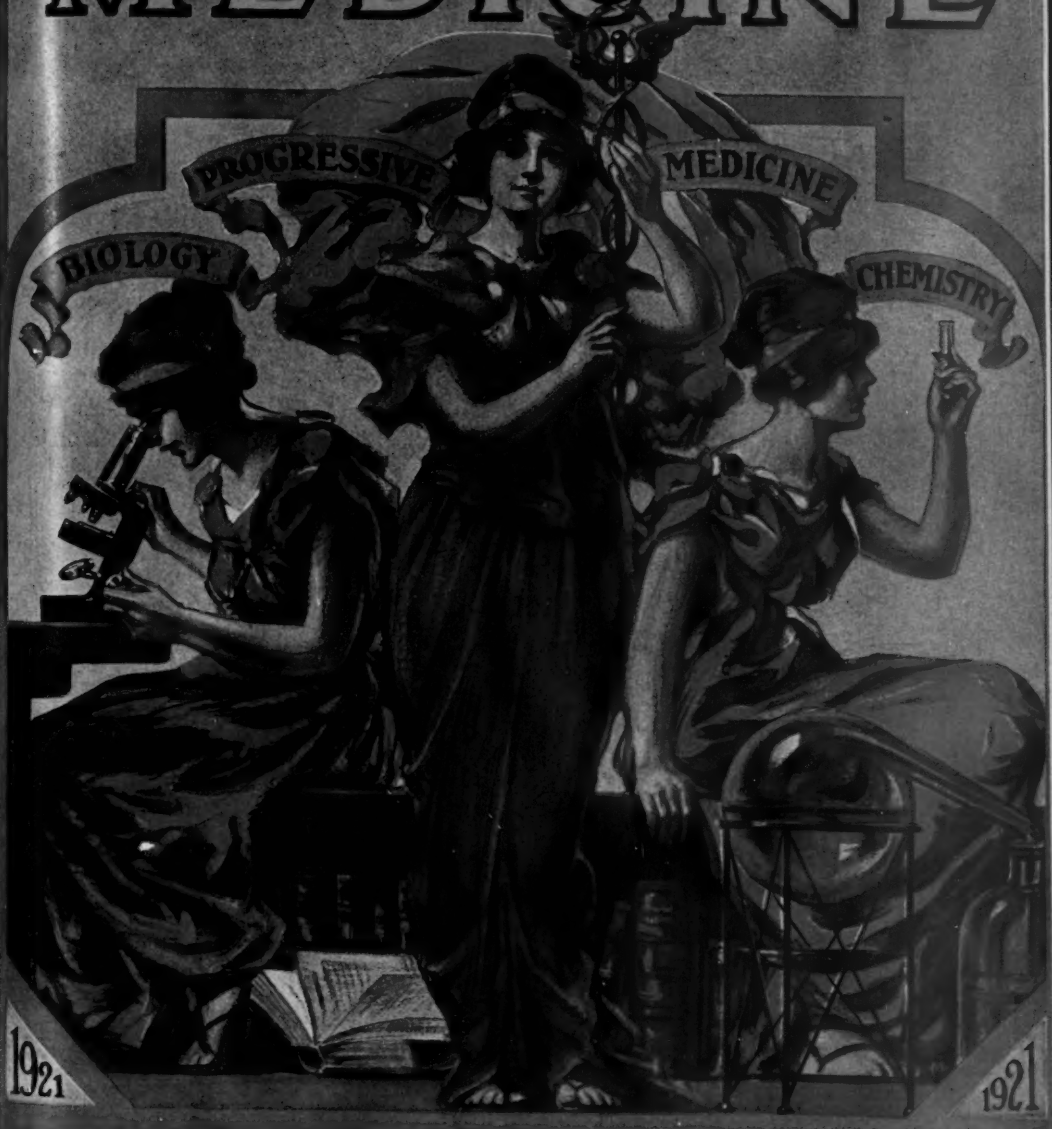
THE AMERICAN JOURNAL OF

# CLINICAL MEDICINE

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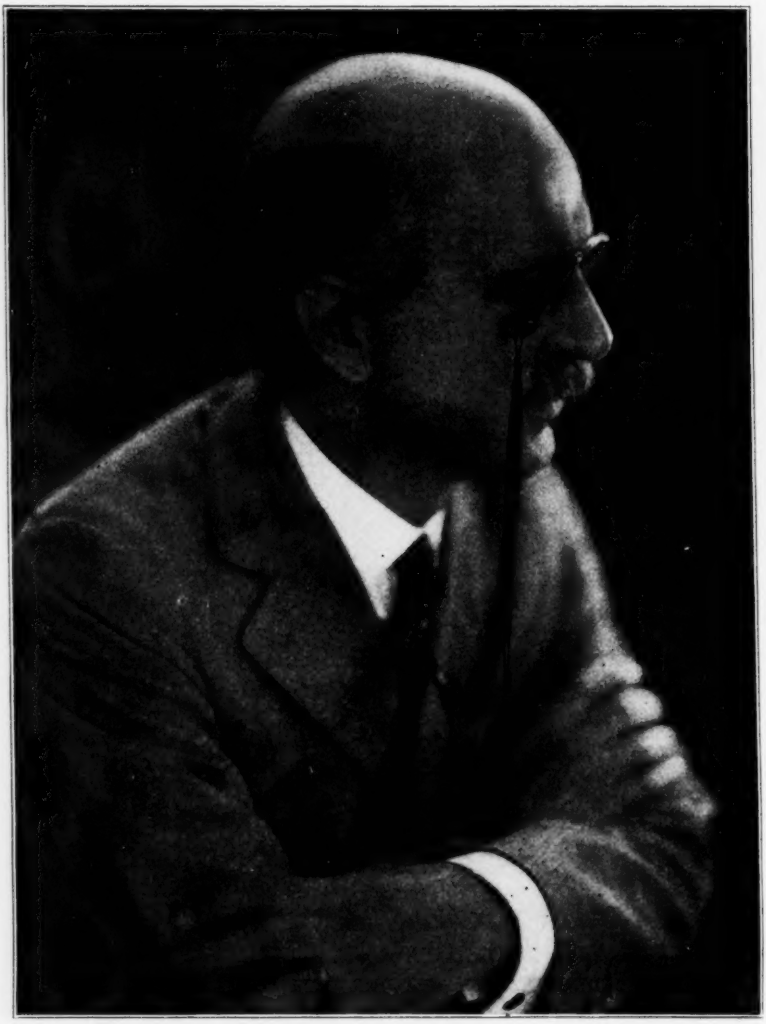

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# The Young Graduate

IT is a courageous youngster and one who indubitably must have a "call" who nowadays ventures to set sail upon the sea of medical practice with its numerous manifest rocks and eddies and its many unseen shallows. As the editor of *The Willows Magazine* (a mighty bright, instructive and entertaining little journal, be it said) declared recently, in an editorial devoted to the young graduate, "particularly to the medical graduate should discerning men of the world look with deep-felt respect and speak with unusual cheer and encouragement. The clear-eyed youngster who stands before you has surrendered even the most remote opportunity to win the phenomenal wealth and tremendous power which accompanies the great success in business or politics. It will never be his lot to experience the sense of mastery over thousands of men and hundreds of machines. Crowds will never point proudly as he rolls by in a luxuriously appointed motor and say: 'There goes the man whose factories made this city.' He will never stand on the flag-bedecked platform with a tossing sea of admiring faces before him, a cordon of hawk-eyed, hard-faced secret-service men protecting his illustrious person, while a band blares 'The President's March' above the hoarse cheering of the throng.

"But, in obscurity and comparative poverty, he will be waging an unceasing battle against the inexorable forces of outraged and abused Nature, with the odds all against him. If he wins and, after hours of nerve-racking struggle, the patient lives, it will all too often be accepted as a matter of course. If the patient's resistance has been so undermined that even the most exacting and unremitting care and attention can not bring victory in the unequal conflict, it is all too frequently, in the minds of the ignorant and unthinking multitude, just 'another of those fool doctors. Now, if you had done what Mrs. Grundy next door said—.'"

The editor continues by asking the established physicians, when they see a new shingle in their town, to drop in and wish the boy good luck. "Don't wait for him

to look you up, with an unutterable lonesomeness urging him, with want of a friend, and shy reserve or exaggerated manly dignity bringing a flush of embarrassment to his cheek. Stop in today and tell him he is welcome to the city, that a little new blood is just what you have been needing for years, that you consider it an honor to have an opportunity to offer your friendship and that if ever there comes a time when you can help him out in any way, you will consider it a pleasure if he will hunt you up. And, tell it all to him so heartily that he can't help understand that you mean it."

To enter upon medical practice today is a different thing from what it was in years gone by. Twenty-nine years ago, when the present writer became the proud possessor of a brand-new shingle, medical practice was, in many ways, a simpler thing than it is now. The drugless cults had not made their inroads and had not drawn many of the sick from the clientele of the established medical profession. Homeopaths were still fighting for recognition which was accorded to them, at least in a measure, not so many years later. With an Eclectic physician, no self-respecting graduate of a regular school could or would consult. Nor were the bonesetters, manipulators and other adherents of the various mechanical modes of treating disease much in evidence. The x-ray as a means of diagnosis came into vogue a few years later. The various electric modalities employed for therapeutic purposes were only slowly finding recognition. The care of the sick was largely undertaken by medicinal or by surgical means.

At that time, the medical profession was reasonably crowded. Medical practice was a white-collar-and-boiled-shirt affair; the majority of physicians wore "the conventional black," frock coats and stove pipes were frequently seen, and, as for popular education in matters medical—that was still to come. The established practitioners had things pretty much their own way.

It was therefore not always with extreme cordiality that the young graduate was greeted when he attempted to horn in, not only in the city but even more in town and country. He usually paid his duty call to the established practitioners of the town and was received with more or less frigid courtesy, was told disparagingly and discouragingly of the crowded conditions as to physicians and the dearth of patients. He was manifestly looked upon as an interloper. Still, (providing that he had it in him), if he stuck, he usually made it a go and became an established practitioner in his turn.

Things have changed a good deal since then. The quality and kind of the medical clientele is different now from what it was then. Above all, a good deal of popular information has been absorbed and physicians no longer can assume an attitude of unutterable supreme wisdom that has but to give orders and be obeyed. Patients want to know why; they want to have their troubles explained, and often the reasons for therapeutic procedures, no matter what they may be. Then, also, the relative number of people calling upon the physician for help has diminished materially. Not only have Christian Scientists, New Thought prophets, adjustment artists and similar drugless healers lured many away from adherence to the legitimate healing forces, but probably fully as much dispensaries, health centers and other agencies established by the medical profession itself have contracted the field of medical practice. Besides, the medical curriculum has expanded so enormously since the beginning of this century and the requirements for admission to the legitimate practice of medicine have become so much more difficult that it is small wonder that less young people are found with sufficient hardihood, courage, persistence and with the required love for the calling of a physician to venture upon the work.

With it all, even though there is more room, far more room, for young physicians to establish themselves in successful practice than there was thirty years ago, it still is true that the cities and at least the larger towns are fully supplied and that there it may be difficult to get a foothold. While, then, we agree most sincerely with the request of the editor of *The Willows Magazine* to give the young graduate a cordial greeting, we also wish to repeat a suggestion that we have often made to the young graduate, namely, that he should not stick in the large, thickly-populated centers and that under no circumstances should he enter into special work forthwith; but that it is far wiser and promising of greater success to search out more

thinly-settled districts that are truly in want of medical attendants, there to serve an apprenticeship that will be a wonderful preparation for eventual special work in later years. There are sufficient country districts in actual need of physicians to take up all the available supply of young graduates. The problem is largely one of proper distribution.

As for ourselves, we bid the young graduates of this year cordial welcome into the ranks of the medical profession. We hope that they will all be successful, that they will all become true physicians, teachers, counsellors and friends in the communities in which they decide to settle.

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**Sad will be the day for every man when he becomes absolutely contented with the life that he is living, with the thoughts that he is thinking, with the deeds that he [illegible] there is not forever beating at the doors of his soul some great desire to do something larger, which he knows that he was meant and made to do because he is still the child of God.—Phillips Brooks: Address on the Duty of a Business Man.**

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## DRUGLESS THERAPY ENFORCED BY LAW

The *Illinois Medical Journal* for July says editorially: "We are reliably informed that a member of the House of Representatives, at a recent session of the Illinois legislature, in speaking of a bill which would limit the price a doctor could charge for an alcoholic prescription to $1.00, remarked, "Gentlemen, this bill is the entering wedge. We propose to fix it in the future so that doctors can do no prescribing at all. In other words, if people are to be treated in the future, it will be by some method of drugless therapy."

It might be pertinent to ask just what this eminent legislative gentleman carries in his brain-box in place of the gray matter that serves thinking people.

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## DON'T "LIVE AND LET LIVE"

The time has arrived for the entire medical profession to rejoice; for, with a mandate recently emanating from the Trustees of the great Johns-Hopkins Hospital, the way to eternal salvation has been shown in a brilliant light!

This same mandate, though applicable only to the staff of the Baltimore institution, has been heralded in the daily press so fully and so explicitly that ignorance of it cannot be pleaded by any physician and patient. Even if a physician or surgeon should desire to continue to live in profiteering iniquity, his own patients, fortified with newspaper clippings, can point with scorn to his wickedness.

The mandate itself is idealism realized. Commercialism, that terrible spirit which for many centuries past has so undermined the medical profession that it has become the laughing stock of bankers and businessmen, is to be abolished with one resolution. In the future, no Johns Hopkins surgeon can charge more than one thousand dollars for an operation, no matter how much skill it may require and no matter how great the responsibility may be; and no Johns Hopkins physician can charge more than thirty-five shekels for a week's services, no matter how seriously ill the patient may be and irrespective of the plethoric condition of his pocket-book.

The Trustees of the Baltimore seat of medical learning have evidently just awakened to the fact that too many physicians and surgeons have died as millionaires and that a fat bank account is neither conducive to scientific advance nor likely to insure faithful services.

In other hospitals, surgeons may (as yet) demand fees in proportion to the financial standing of the patient and to the degree of skill and responsibility involved; but, no more so at Johns Hopkins. How soon other hospitals may follow the example set by the eastern institution, is problematical. Let us hope, soon; for, every board of trustees is keenly aware that their respective staffs are only too anxious to have their personal affairs regulated. Think of the delight it will afford us to say to certain prominent lawyers: Look you, who have always sneered at us medical men. You still persist in charging your rich clients large fees even if the services amount to no more than ordinary divorce proceedings, while we live in a spiritual atmosphere, charging for the removal of a brain tumor, for a gastrectomy, and the like, only paltry sums.

It is, of course, well known that the medical profession has been very mercenary. Services in all hospitals have been rendered with joy because the surgeons needed clinical material to provide copy for bulky reprints. The internists, neurologists, have wanted an opportunity to test the efficiency of their drugs and minis-

trations. It is also well known that many poor men and women have been turned away from the consulting rooms of physicians because their gasoline and garage expense hindered them from enjoying the luxury of securing medical services.

We feel certain that, even in the great clinic at Rochester, Minn., the brothers Mayo, who do not enjoy the beneficent paternalism of a board of trustees, will mend their ways and in future demand wages at 35 dollars per week per head.

This, indeed, is a fair union price as compared with the schedule of plumbers and will be heartily subscribed by Sam Gompers, Mr. Lewis, and Mr. Murphy, walking delegate of Bricklayers Union No. 23.

We most respectfully beg the pardon of the eminent Board of Trustees of Johns Hopkins for being so bold as to petition them to be logical and thorough and add to their mandates the following regulations:

1. Fees of thousand dollars per operation will be proportioned in ratio to the length of the incision and the size of the offending organ removed.

2. A considerable reduction will be allowed patients for plastic surgery if the grafts are furnished by the patients themselves.

3. Fees for blood-transfusions will be reduced fifty percent, as the other half of the fee properly pertains to the donor.

4. In such cases as typhoid fever, pneumonia, etc., the regular fee of 35 dollars per week will continue only during the febrile stage. The week following the crisis, a fee of $17.50 only is authorized.

5. Members of the staff will purchase none but flivvers, and they may smoke not more than five nickel cigars per day. They will otherwise, too, make every effort not to live beyond their means.

6. To satisfy a desire to keep abreast of the times they will be permitted one hour daily in the hospital library.

7. Attendance at medical congresses will be authorized, provided that the concerned physicians or surgeons have satisfied the Board that passage will be in the steerage of ocean liners and in the 3rd class European railway trains.

8. Vacations of one week per year will be allowed members of the staff on the rear porches of their flats.

9. Members of the staff who are seen twice in one season at grand opera will be asked to resign, having furnished prima-facie evidence of secretly earning extra money.

10. The hospital maintains a shop in which wives and daughters of members of the staff can have last year's clothes and hats altered and mended at the actual cost of labor.

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**We know the effects of many things, but the cause of few; experience, therefore, is a surer guide than imagination, and inquiry than conjecture.—Colton.**

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## THE USE OF DRUGS IN NORMAL LABOR

The question is raised whether in normal labor it is necessary or advisable to use drugs. The answer depends somewhat on our definition of normal labor. If we interpret the word "normal" in its strictest sense, it follows, of course, that no drugs are needed. But, the term is seldom used in that sense. It seems to be generally conceded that a case may be called normal provided delivery is accomplished without manual or instrumental interference, and without an undue amount of suffering or delay.

Accepting this definition, there may still be a degree of pain or a prolongation of labor that would justify therapeutic aid for the patient's comfort or welfare.

When the labor pains are not as vigorous as they should be, they may often be promoted by the use of ergot, quinine, or strychnine. The writer has used them all for this purpose, and he is inclined to give the palm to a full dose of quinine, say 5 or 6 grains. Ergot is apt to be uncertain, and the old rule, of not giving it until the uterus is empty, is a pretty good one. It sometimes produces hour-glass contraction and is better adapted to securing good contraction *after* the third stage. Strychnine sometimes seems to increase the power of the uterine muscle, but often fails. It is better adapted to increasing the tone of the voluntary muscles.

When the patient is very tired, a small hypodermic of morphine will often render the pains more effective. The writer prefers it combined with hyoscine (the H-M-C tablet, Abbott.) One of the satisfactory results of this combination is that, after the mother has been delivered and made dry and comfortable, she drops off

into a quiet sleep for a couple of hours, thus bridging over a time that is usually rather uncomfortable.

Even the most normal labor involves a degree of pain that we are justified in mitigating by the use of harmless remedies. It seems barbarous not to spare a patient the agony of the moment of actual delivery by the admisitration of a little chloroform. It is in every way superior to ether for this purpose, and entirely safe.

There is another reason for the use of chloroform during the actual expulsion of the child, and that is, to prevent laceration of the perineum. The elasticity of the perineal tissues varies so greatly in different individuals that in some patients they will tear although the labor is in every other respect perfectly normal. A lacerated perineum is such a calamity that we are justified in using every means to prevent it. The best repair that was ever made is not equal to the natural condition. One need only to examine a dozen or so of child-bearing women to see how true this is. It is not to the credit of the medical profession that so many doctors are indifferent to this matter.

In preventing laceration, the one great factor is, *to give the tissues time* to stretch instead of tearing, and this can best be done by the use of a little chloroform, and by restraining the too-rapidly advancing head with the hand if need be. The amount of stretching that the tissues will endure without tearing, if given time enough, is truly surprising. There, as in so many other things, prevention is better than cure.

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**Good sense is a fund slowly and painfully accumulated by the labor of centuries.**

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## BROMINE SENSITIZATION

There is more to the problem of dosage in prescribing, than is contained in the answer to the examination question, 5 to 15 grains or 1/120 to 130 gr., as the case may be. Frequency of dose depends on the pathology and, no less, on the rate of drug absorption and of excretion, or oxidation. If a drug is given too often, we have the danger of cumulation from overlapping doses. If it is not given often enough, we have periods of non-treatment with loss of time for recovery. Digitalis and arsenic are examples of the former. Nitroglycerin meets the latter situation when given only three times daily, being a drug that is oxidized in ten minutes and, therefore, of transitory effect.

Sodium and calcium salts are more kindly tolerated as medicines than other elements less frequently found in the body, such as arsenic and bromine. It took 606 experiments by Ehrlich to develop an arsenical product strong enough to cure the disease germ and yet not kill the patient.

As for bromine, it remains for the chemist to develop a form of the drug which will rob it of its deleterious action while retaining those pharmacological properties for which it is so much used.

Probably too little attention has been given to bromine sensitization. The normal amount of bromine in the body is questionable. It has not been determined whether bromine is natural or accidental in the human economy. This fact is sufficiently of importance to be practical and warrants consideration before ordering even small doses of potassium bromide, to say nothing of the occasional massive dosage of 800 to 1200 grains daily. The toxic action of bromine overdosage is such that it may aggravate the very condition for which it is exhibited. The possibility of brominism must be borne in mind, and also the fact that slow elimination will continue the toxic effect over a long time after administration has stopped.

There is no need to catalog the symptoms of brominism, nor would much practical value be contained in our remarks, if we were not able to offer a selected substitute.

We refer to the only two drugs with which we are familiar, luminal and solanine; the former a synthetic chemical, the latter an alkaloid used in the form of its hydrobromide salt. They are not suggested for study, more than any common drug lends opportunity for investigation; but they are proposed for their known value in all those conditions in which the bromides are commonly resorted to. Neither drug has the deleterious action of bromine on the skin, the gastric intestinal tract or the nervous system. Both, luminal and solanine, have positive value as a sensory and motor depressant, quick in action, and positive.

Beware of bromine overaction and be-

gin a study of substitute drugs as suggested, and better clinical results will follow.

Incidentally, it may be remarked that the effects of luminal and luminal sodium are produced almost entirely also by barbital and barbital sodium.

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**He is a wise man who wastes no energy on pursuits for which he is not fitted.—William Ewart Gladstone: "The Wise Man."**

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## THE BUGBEAR OF ANESTHESIA

It is a common experience that many patients dread a general anesthetic almost as much as they do a capital operation.

The reports of sudden deaths from general anesthesia, even in the chairs of dentists or physicians (to say nothing of those which occur in hospitals) which have appeared from time to time in sensation-hunting newspapers, the first-hand knowledge of many patients and their friends of the annoying aftereffects of general anesthesia, contribute to the widespread anesthetophobia.

Indeed, local anesthesia would never have attained its present scope, were it not for the desire of many operators to avoid the pitfalls of chloroform and ether.

But local anesthesia does not always produce the desired results, even in the hand of clever operators, nor is it always applicable, even if augmented by a preliminary administration of an opiate, and we very frequently are simply compelled to fall back on general anesthesia.

True, the surgeon should be held responsible only for his part of the work—for the operation itself. As a matter of experience, though, we know that any mishap, no matter whether it be clearly and palpably due to carelessness or error on the part of an interne or nurse, causes contumely to be heaped on the surgeon.

The unreasonable public, it would appear, would blame a surgeon even if lightning struck down a patient while convalescing from a successful operation.

What wonder, then, that, when entering a strange operating room, the surgeon looks upon the person charged with the administration of a general anesthetic with keen anxiety, at least until he becomes convinced that the anesthetist knows his or her business and that the patient is doing well. Then and then only can he concentrate his mind fully and undisturbedly on the work in hand.

But why all this, when, in reality, general anesthesia should not be fraught with any great risk and, certainly, should not be followed by the much-dreaded after effects, such as nausea, vomiting, ether-pneumonia, and others?

The fault is as much the anesthetist's as the surgeon's.

Ours is an age of speed and mechanics. We eat fast, we work fast, and we die fast.

With the rapid advances in mechanics we have lost certain important arts. Walking is no longer "fashionable," the gas-driven motor replacing our limbs; we no longer call on people to talk to them, the electric wire proving too convenient and time-saving; even in war we no longer need personal bravery, the typewriter and shells flying many miles doing the work for us.

The same tendency can be observed in the operating room. Lucky the patient who is sent into the hospital late in the evening. Then he has at least a night before the ordeal, otherwise the surgeon would rush him from the admission office directly to the operating table.

Preparation—bah! The patient is in good condition. A machine is rushed to his side, valves are opened, a mask is placed over his face and, after some choking and lividity, the word "ready" is heard. The surgeon rushes madly through the tissues, an anxious eye on the clock, lest some colleagues criticize him as a "slow operator." It is evident that, just as ignorant people look upon a "fast" automobilist as a "good" driver, so do many surgeons (?) look upon a "fast" operator, as a brilliant surgeon.

The speed mania has replaced the art of careful and scientific dissection, the machine the careful individualization so badly needed in each case requiring complete general anesthesia.

It is beyond the scope of an editorial to discuss technical details. Still, one who is thoroughly familiar with the safe and sane methods of general anesthesia can not but wonder at the manner in which ether is administered in many hospitals and wonder still more that the methods employed are labeled as "the drop method."

The "stream method", would seem a

more appropriate designation for the way the liquid is forced against the mask. And, while on the subject of masks, one can not but shudder at the painstaking care with which many anesthetists exclude the only diluent which renders ether safe—air—from the patient's nose and mouth, one or more heavy towels being thrown around the margins of the mask for that purpose.

There can be no doubt that the administration of ether by the open-air-drop-method is the safest method of general anesthesia. But, this means "drop for drop" and not a stream of the liquid. Also, open air means just what it implies and not towels to keep it out. A few layers of gauze or a piece of stockinette over the simple frame mask should and must suffice. If the ether happens to work too slowly, a few drops of chloroform will prove useful. After that, ether must be continued.

Even this method does not prevent the falling back of the tongue, but that can be easily averted by a reclining posture of the head, which insures tranquil, regular and easy breathing. To obtain good anesthesia and to be sure of safe anesthesia, are not one and the same thing, however, and in all facultative operations in which the time element does not play an important role, careful prophylactic preparation is a *conditio sine qua non.* It is not enough to give dietetic treatment in the event that sugar is found in the urine. The entire human economy, including the teeth, must be subjected to a most thorough scrutiny and every condition likely to interfere with convalescence remedied before operation.

How many surgeons train their patients in deep-breathing exercises before operation? Few, it is feared. If they did, they would but need to issue the commands just as soon as the patients have reached their beds, even while they are still under the influence of the anesthetic. Then the patients would inhale and exhale with force, as if they were conscious, and the ether would be quickly eliminated from the respiratory organs.

How many know when to stop the anesthetic? A well conducted anesthesia should nearly always terminate when the last skin suture has been tied. That means, that the mask must be removed about the moment the peritoneum is closed or at a corresponding period in other operations. How many surgeons give explicit instructions to the nurse with regard to the postoperative care without giving even a thought to the postanesthesia case?

No, not expensive and cumbersome machines but knowledge and care constitute the best armamentarium for the modern operating room. When such are assured, the patients can be reassured that the bugbear of anesthesia can be done away with as non-existent.

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**It is so easy to perceive other people's little absurdities, and so difficult to discover our own.—Ellen Thornycroft Fowler: "Place and Power."**

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## VIENNA RELIEF COMMITTEE OF CHICAGO

In a recent circular mailed to those having sent contributions to the Vienna Relief Committee of Chicago, more especially to the Committee for the Relief of Vienna physicians and families, the assistance received so generously by the Committee was gratefully acknowledged. It is said that, besides the money which has been contributed, amounting to $90,128.54, much assistance has been received from the American Friends Service Committee of Philadelphia. This organization was good enough to pay the expenses of shipping 300.000 pounds of rice to Vienna and, in addition, has readily assumed the burden of distributing milk to be obtained from the cows which were supplied by the American Dairy Cattle Company of Chicago, and for the transportation of which the Committee paid the American Dairy Cattle Company $7,500.00.

The Committee has decided that, in spite of the fact that there will still be more or less suffering in Vienna for some time to come, the situation has been alleviated to such an extent that the Committee may well consider its work ended. It has, therefore, decided to close its activities by sending to the contributors of the fund a statement of the receipts and expenditures. The Committee advises those who wish to make further contributions for the relief of sufferers in Vienna to send such aid directly to those persons or organizations in Vienna who are in a position to make the best use of contributions.

It is a pleasing circumstance that of the $106,728.54 received, barely three percent, or $3,899.10, was used for expenses of the

Committee; the entire balance of the sum collected being devoted to the purchase of food and foodstuffs, including live stock and cash remitted to Vienna for the purchase of raw materials, provisions, etc. Those members of the Committee who were active in the disbursements did so altruistically and without other reward than that contained in the knowledge of having done right. Under such circumstances, those who have contributed to this praiseworthy undertaking feel all the more that their money has been well spent.

**Happiness is the feeling we experience when we are too busy to be miserable.—Tom Masson: "A Corner in Women."**

## THE PHYSICAL DEVELOPMENT OF YOUNG AMERICA

"In the army, I was made responsible for the proper nourishment of troops. I was harassed by the thought that, if I could have started with those boys in their infancy, I might have made well-nourished soldiers of them. Their bad teeth, deficient feet, and subnormal brains might have been prevented. I began twenty-five years too late to do them any good.

"Some say we will not have another war. But, I say, in order to raise another army, Uncle Sam should begin twenty-five years before war is declared."

This excerpt is from a letter written by a member of the Officers' Reserve Corps, U. S. A. It relates to what has been a sore point with all medical men having to do with the examinations of men for the selective draft service. An undue number of young men, in the proper age periods to serve their country in war time, was found deficient physically.

The fact that similar and even worse conditions existed in European countries does not entitle us to lay the flattering unction to our souls that, after all, we are a superior nation. If the people of the United States of America proudly feel, even though they do not always express it in so many words, that they are the most intelligent, the most progressive, the most advanced nation on earth, the physical findings in recent years were sufficient to dampen our nationalistic feeling of self complacency in this respect.

Newspaper writers and novelists delight in describing the "typical American young manhood" and select as their subjects imaginary young men as they are drawn by Gibson and others but as they are found in actual life so infrequently as to be almost atypical. And yet, with a sensible, deliberate utilization and husbanding of our national resources, with a proper application of the lessons learned in recent years, it would be easy to correct existing evils and to bring it about that the youth of the American nation actually would become the flower of the young people all over the world.

This can not be done by talking. It requires years of persistent effort. It must be kept in mind, further, that the problem is not merely one of physical training and proper feeding but that it is exceedingly complex, social and economic conditions of all classes being intimately concerned in it.

## EVANSTON TAXES SICKNESS IN THE FAMILY

The Evanston (Ill.) "News-Index," for August 11, asks: "Do you maintain a hospital in your home?"

If you are caring for two or more sick or injured persons, you are running a hospital, according to the Evanston city code, and you are obliged to pass an inspection as to the merits of your place.

Then, if found satisfactory, you must pay a license fee of $100. That part of the fee will be refunded for which your hospital is not running, but there shall be no fee less than $25.

As Hermes Trismegistus says: "As above, so below." What goes on in the Macrocosm, is paralleled in the Microcosm. The lawmakers at Washington have been busy regulating medical practice, very much on the principle that, the less one knows about a certain problem, the better he is qualified to solve it. The legislatures in various states of the Union have followed suit and have succeeded in rendering life a burden to properly qualified physicians by useless, picayune and unjustified regulations, while, strangely enough, opening the doors wide, in many instances, to all sorts of poorly equipped and ignorant pretenders.

Now, municipal authorities are trying their hands at some equally brilliant stunts: the scintillating gem quoted at the head of this article and emanating from classic Evanston being but one instance among many. (By the way, why is it that Evans-

ton is always designated as "classic"? Like "Japanese schoolboy," we ask for to know. We do not wish to make invidious remarks. Still, the question comes up in our minds insistently, Why *classic* Evanston?)

The eminent statesmen who are guiding the fortunes of Evanston, assert that people who are caring for two or more sick or injured persons are running a hospital. They are obliged to pass an inspection—that is, the house must pass it—and, on being reported upon favorably, a license of one hundred shekels decorated with the American eagle must be forthcoming. We do not quite understand the meaning of "That part of the fee will be refunded for which your hospital is not running, but there shall be no fee less than $25." That passage requires a learned pundit or, mayhap, one of the Evanston professors of exegesis will explain. However, let it pass.

Our interest centers in the provision that any house in which there are two or more sick or injured persons being cared for is technically a hospital and (this is the milk in the cocoanut) is subject to a license of one hundred dollars. What a fat chance for a pork barrel! What a treasure mine for hungry politicians and "deserving" ward heelers. What an opportunity for graft. Ye Gods! Possibly, the intention is, to let that license money flow into the city treasury. But, Evanston is pretty near to Chicago and to Chicago's Tammany crowd with Tammany methods. What a chance! We are speechless.

However, leaving that part aside, we are cogitating, just for instance, of what would have happened during the flu epidemics of recent years, when three, four, five and more members in numerous families lay ill in the same houses. In addition to loss of wages, expenses for physician, nurse, druggist, outside help to run the house, and all other incidentals connected with such an epidemic visitation, to have to be taxed one hundred dollars extra, just by way of license—would have meant to rub it in rather unmercifully. During smaller epidemics, say, of whooping cough, measles, diphtheria, and such, it is not so very uncommon for two or three children to be afflicted in the same family. Then, this unfortunate occurrence imposes the duty upon the householder to request an inspection and to pay a license fee of one hundred dollars for the privilege of caring for his children at home. The inspection of the premises, through the health department, is all right. But the license fee? "How come?"

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**Analysis kills spontaneity. The grain, once ground into flour, springs and germinates no more.—Henri-Frederic Amiel: "Journal Intime."**

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## WHAT IS THE REASON?

Under this title, a writer in the *Atlantic Monthly*, for January last, relates an experience that furnishes food for reflection. He was on his way to Europe on a Norwegian steamer, in the summer of 1920. On board, were over seven hundred third-class passengers, the majority of whom he found to be Skandinavian-Americans who were leaving America for good. Most of them were American citizens, and some of them had spent the greater part of a lifetime in the United States. Out of two hundred that he talked with, only nine expected to return to this country. He questioned the two hundred as to their reasons for leaving the land of their adoption in disgust. Those reasons are worthy of consideration. If this country is a bad place to live in, we ought to know it and face the facts without flinching.

Perhaps we ought to make our position clear at the outset, in order that we may give just and proper weight to the complaints of these people.

In the first place, this is an Anglo-Saxon nation, with Anglo-Saxon laws, institutions, customs, and ideals—especially ideals. We welcome the oppressed of all lands, to come and help us make this the greatest and freest nation on earth. *But, they must adopt our ideals and not expect us to adopt theirs.* The guest who finds fault with his host has ceased to be a guest and becomes an impertinent meddler. This self-evident truth is too often forgotten by some of our hyphenated fellow-citizens.

The two chief complaints voiced by the departing Skandinavians were aimed at the draft and prohibition. "We have had enough." "America is not what it used to be." "The United States is all right except for the people that run it." "We would have been willing to fight if we were attacked, but not in Europe." These were some of the expressions most often heard.

Now, as to prohibition, it is enough to say that it was the saloon in politics that

these people can thank for prohibition. Whatever objections can be raised against it (and there are some), whatever well-founded complaints can be made against the way it is enforced (and there are some)—the fact remains that it is a part of the Constitution of the land. As long as it is, it is every good citizen's duty to acquiesce.

In regard to the draft, the attitude of the people who would "only fight if attacked" is very narrow and illogical. To have done as they wished, would have meant to fight too late. It was fortunate for us that the nation realized that, to wait until the Allies were beaten and America invaded, would have been, to invite certain defeat. What does it mean to be attacked? Were we not attacked when our ships were sunk and our citizens drowned? Were we not attacked when we were told where our ships could and could not sail, and even how they must be painted in order to escape the fate of being sunk?

No, the arguments of these people will not hold water. This country is not paradise, but, it is better than Europe. When the irritation of some of our citizens has had time to wear off, they will see that there are worse places to live in than America. In fact, reports show that the exodus shows signs of diminishing.

A great deal of this dissatisfaction is due to propaganda. Keep telling people that they are abused; and, after a while, they begin to think they are.

Of course, every well-informed person is aware that there are lots of things that need remedying; but, they are on the surface and not fundamental. We need better enforcement of law—respect for law as such. We need to check the activity of meddlesome reformers who try to impose their hobbies on the community. We need more justice in the enforcement of the tax laws, of the prohibition law, and the anti-narcotic law. We need men of wisdom, instead of politicians to make our laws and run the country. It is up to the voter.

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**It becomes extremely hard to disentangle our idea of the cause from the effect by which we know it.—Burke.**

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## MEDICAL JOURNALS AND MEDICAL ARTICLES

"Of course, I may be far astray, but I think that, if editors could give their readers a sort of a little fiction piece once in a while, say, in describing some case, give the treatment, but in a sort of humorous strain, story like, they would find that the subscribers would read their journals more often than they usually do."

This is the closing paragraph of a letter written by a good friend of ours who shall be nameless and whose location even we are not going to betray. Earlier in his letter, he says that, in the block where he lives, there are forty-two physicians, among them several noted men, professors of medicine, of surgery, obstetrics, and so forth. He goes on: "These men I see every day; am in their offices frequently. I see bundles of medical journals that are not opened. The well known ——— said, he had not read one in six weeks. What does it mean? I asked one man if he never read his journals. He said, 'a little too busy to read some one's hysterical gush.' Yet, he sat there reading a novel.

"I really think that some of the men are getting tired of the stuff that is being handed to them. Some that I read is utterly absurd."

Incidentally, this same man, who has contributed repeatedly to the reading pages of CLINICAL MEDICINE, informs us that some of his articles caused him to receive close to eight hundred letters, not very long ago. We think we are justified in assuming that CLINICAL MEDICINE is read by its subscribers. We base this idea not only upon what this particular correspondent has told us but upon the fact that we received the same information from numerous other contributors.

We are not coxcomb enough to conclude that CLINICAL MEDICINE is the only journal that is being read; there are several journals that are read attentively, and, if their subscribers leave them unopened on their desks or reading tables, they are missing many valuable things.

However, we agree with our correspondent, at least in some respects. A great many articles appearing in medical journals are not of a nature to attract and hold the attention of the physician who, after an exhausting day's work, sits down for an hour's rest and picks up a journal so as to combine instruction with rest. Unbaked and unfounded theories, purely speculative discussions and similar "highbrow" stuff are as unacceptable to him as are the patent-medicine-almanac methods of some of the

socalled practical journals which are, fortunately, getting away from this purveying of such crude pabulum. To read in a medical journal that such and such a drug (possibly a secret nostrum) is "good for" a certain disease, without reference to the patient's symptoms, idiosyncrasies and peculiarities, is as unsatisfactory and objectionable as is the pseudo-learned discussion of a method of treatment that has no justification except in the prejudiced mind of the author.

What, then, shall medical journals offer to their readers, and in what form shall the reading matter be prepared? General practitioners, especially of the older generation, frequently insist on "practical" articles in which the subject is treated in as simple a form as possible and the deductions for practice are given clearly and directly. That may be a difficult thing to accomplish. If the human organism were a piece of machinery that is always built according to specifications, and if its disorders, likewise, were to take unvarying, definite forms, the thing would be easy. Unfortunately, even in the dispensary and the hospital the young graduate learns, as one of his earliest lessons, that textbook descriptions of diseases are rarely duplicated in practice; that "school-cases," socalled, of even ordinary diseases are not met with frequently. There are usually individual peculiarities and deviations which must be accounted for, recognized and taken into consideration by the physician if he desires to benefit his patient. Therefore, it rarely is possible to arrange the plan of treatment strictly according to Hoyle. The physician can not card-index diseases and fit the symptoms of a given patient into a certain rubric so as to subject him to a stated treatment. He will have to study the patient who has the disease fully as much as the disease that has attacked the patient; he will have to adjust his therapeutic measures in accordance with what he finds in a given patient —in short, he will have to use his brains and will be obliged to individualize in his treatment, always.

For that reason, medical-journal articles can not very well be written in the form of definite recommendations that are suitable for all contingencies. They must, rather, contain guidance by which the reader may inform himself and which he may employ in practice. A medical article may be ever so instructive and useful; its lessons can not, usually, be applied without certain modifications according to the needs of the given case. For that reason, it is not well, nor is it possible, to outline a certain treatment giving definite dosage of a remedy (whether that be a drug or electricity or what not) that might be administered forthwith without due attention to special contingencies.

Now, as to the form of the articles. Our correspondent suggests a humorous strain, story like, so as to entertain as well as instruct. Frankly, we are not so sure that that would work. Woods Hutchinson may be able to treat a certain subject in a popular manner and hold the attention of his readers. But, how many medical men are there who can write like Woods Hutchinson?

True, no man ought to write unless he has something to say and unless he is willing to say that in a proper manner. Still, the problems of the medical man differ somewhat from those of the popular-magazine reader who seeks entertainment first and instruction only incidentally. When the medical man wants recreational reading, restful reading, as such, he will usually read a novel or a detective story or such. But, when he reads for information, he must be prepared to dig into the material presented to him and to cull from it those portions that may be of service to him, for his particular needs.

No man can prepare his medical articles in such a manner that they will prove of equal benefit to all his readers. The latter always will have to select and adjust, picking out those nuggets from the ore that are of personal use to him. We fear that story-like medical articles would not accomplish their purpose, save under exceptional circumstances, when they might teach a lesson very well; while a humorous style of writing would all too often be quite inappropriate and unsuited to the matter under discussion.

Not but what there is something in what our correspondent says. The customary dry-as-dust intellectual pabulum that is set before us in medical articles is about as attractive as—dust. The style of writing should be a matter of concern to every writer. He should take pains, not only to say what he has to say, but to present his ideas in words that are simple, impressive, decisive and instructive.

After all, though, especially case records

might be presented in the form of stories and, if the wording can be made entertaining, so much the better. Many times, the choppy, abbreviated case histories are limited to the description of objective signs and symptoms observed by the physician, when an account of the subjective response of the patient to his malady might offer much of value in the psychologic study of disease, besides enhancing the interest to the outsider and preserving the human touch.

A good rule to follow for ambitious medical authors would be, to ask themselves whether they, themselves, would wish to read such an article as they have perpetrated, in a medical journal, if somebody else had fathered it. It's a sort of golden-rule affair; and, we have found that strict attention to and conscientious observance of the Golden Rule works mighty well.

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**Good luck will carry a man over a ditch, if he jumps well; and will put a bit of bacon in the pot if he looks after his garden and pigs. Luck taps at least once in a lifetime at everybody's door, but if Industry does not open it, away it goes.—Charles Haddon Spurgeon: "Luck."**

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## TAXING THE SICK

The president of the American Pharmaceutical Manufacturers' Association, Dr. C. H. Searle, calls our attention to the probability that the Senate Finance Committee will accept Secretary Mellon's recommendation to include in the new revenue bill a five-percent gross sales tax upon the manufacturers of medicinal preparations. Doctor Searle requests the members of the American Pharmaceutical Manufacturers' Association to approach medical societies and individual physicians for the purpose of inducing them to wire and also to write to their own senators and congressmen, and likewise to Senator Bois Penrose, who is the chairman of the Senate Finance Committee, Capitol, Washington, D. C. Letters and telegrams should protest against that portion of this tax provision that applies to drugs sold to physicians and not advertised to the general public.

We are in entire agreement with the American Pharmaceutical Manufacturers' Association as to the serious error of taxing medicinal preparations that are made exclusively for the use of the medical profession and sold solely on prescription written by a physician. Such a gross-sales tax upon this class of medicinal preparations would, of course, be passed on to the ultimate consumer and would mean a greater burden placed upon the sick.

Already the high cost of being ill is a serious matter. Physicians who dispense their own remedies find it difficult to purchase as largely of medicinal preparations as they should do and as they would wish. If the sales price of such preparations, both those dispensed by physicians to their patients and those dispensed by pharmacists on prescription, is increased by five percent in order to meet the gross-sales tax, a serious burden is laid upon those least able to bear it; that is, the sick.

The class of medicinal preparations referred to should be excluded from the action of this five-percent gross-sales tax.

## "A READER"

We are in receipt of a further communication from "A Reader" who has written repeatedly concerning the lack of instruction given to venereal-disease patients and who now goes further, asking for information as to how to prevent the possibility of infection.

We departed from the usual custom in printing "A Reader's" first and second letters, because the subject justified it, in our opinion. However, it is manifestly impossible to utilize the reading pages of CLINICAL MEDICINE for the purpose of carrying on a correspondence with a man whose very identity we do not know. We can not publish the last letter by "A Reader," although we shall be quite willing to act upon a personal letter in which he signs his name. If he will do so, we can refer him to a physician in his home town who is competent to afford him all the information that he desires.

# Leading Articles

## Memoirs of the World War

By DR. GUSTAVUS M. BLECH, Chicago, Illinois

*EDITORIAL COMMENT.—Doctor Blech's Memoirs of the World War represent the experiences and reflections of a civilian surgeon who has had his full share of military surgery. The Spanish-American War, the Expedition to Mexico entailing service in Texas camps, the World War during which the author served in various capacities—all these experienced by a man who loved his profession, who was, by adoption, an ardent American, who is a good mixer and has the faculty of training and commanding men, who, moreover, looks about him and observes intelligently and thinkingly, can not but have fitted the author to prepare for his colleagues a story of his own observations that is full of interest. The bright, colloquial style, the animated relation, and the subject itself, so full of interest, combine in making this story attractive.*

### Prologue

SOME years ago, when life in the United States ran its normal course and when one heard of war only as a remote possibility, I visited the theater to see Israel Zangwill's play, "The Melting Pot."

The play itself is of no moment today, for, though it aimed to preach idealism in American life, the great problem of a homogeneous America was barely touched.

But, it caused me to think. I have seen something of the Melting Pot during the Spanish-American War. Then I beheld the nation in its glory. Patriotism or, what amounts to the same thing, patriotic fervor, was spontaneous and genuine among all classes and, if the nation had then needed millions of fighting men, there would have been no occasion or need for drafting levies.

However, no sooner was peace concluded than one could see the citizens return to their old love of commerce and industry, completely absorbed in the hunt for fickle Fortuna never fully attained or realized.

"Militarists" have often raised their voices for a practical patriotism which gives some attention to military defense; but the "pacifists" developed a philosophy that, the greater the preparation, the greater the danger of war; and the people who should have been most concerned remained indifferent. They were content to hear the American eagle scream every Fourth of July, and thereby felt assured that no nation would be foolhardy enough to risk an attack on the land of the free and the home of the brave.

Meanwhile, thanks to our liberal immigration laws and efficient public sanitation, the population of the land increased from year to year. One living in any of the larger cities did not have to go very far to behold the result of the foreign influx, for, right within one's city gates could be seen the accumulation of foreign human strata in characteristically specific combinations.

And this is quite natural. Aliens, who come to a country whose language they can not speak and whose customs are at almost direct variance with those which have become second nature to them, are compelled to seek the lines of least resistance to gratify the demand for human companionship and to secure assistance and cooperation in the struggle for economic existence.

If all or even most aliens had come here with the definite aim of finding a new fatherland, all this would matter little, because it would be but a temporary makeshift; but

many, too many, have come here in the delusion that American streets are paved with gold; from the moment they leave their native shores, they dream of the day in the future when they can return to the country of their nativity to live in affluence, gained in the dollar-land and unattainable in Europe and Asia.

Many have come here because their own soil has become too hot for them. These men seek new fields for their nefarious activities and bring with them contraband which the customs officers can not confiscate—hatred for organized society, for ordinary decency.

On the other hand, we also see educated and cultured men come to escape tyranny. These men have not sought our shores because our country is heralded abroad as the "land of unlimited possibilities," but because they know that under our republican form of government no man need pay with his self respect for a decent social and economic existence.

In a short time, one can see these men, not as the flotsam and jetsam of cosmopolitan cities, eking out an existence in obscure corners and by-ways, but as honest workers right amidst fellow Americans, taking an active interest in all that affects the common weal.

This class of men has sought the melting pot and has found it. A brief, purifying process removed their foreign alloy in its entirety.

But, now, we have seen another play, also entitled: "The Melting Pot." It was written by the greatest realistic dramatist of the world—Fate. It was staged over our entire continent but with the proscenium in France. Four million actors formed the cast. The curtain rose for the first act on April 6, 1917. The climax was reached at the eleventh hour of the eleventh day of the eleventh month of the following year. The last act has just been concluded, and the curtain is being rung down.

Actors and audience—a nation strong—are intermingling . . . . .

In the seething kettle is still some impure element—the sediment of the poisonous alloy left to be destroyed. But, the distilled product, invigorated and idealized Americanism, has put its hand to the nation's plough and powerful arms are strewing seed unto the rich soil. Soon, there will be a plentiful harvest.

A new dawn, glorious in its lustre, dissipates the mists . . . . .

## CHAPTER I.

### Mobilization

THE day when war against Germany was made irrevocable, demobilization of all troops, not part of the regular army, from Mexican Border Service, had not yet been completed.

At that time, I was in command of a field hospital, which had returned from the Mexican border on November 3, 1916. Since that day, the little organization had undergone important changes in personnel. Out of six officers, but two remained, my executive officer and myself. Of the seventy odd trained non-commissioned officers and privates, about forty percent had been discharged.

Seeing the handwriting on the wall, I advised my executive officer (Captain James J. McKinley) that, in view of his loyal and faithful service, from the moment I took command of our unit, he could be considered qualified for "majority," and that, according to ancient custom, a man who had reached majority was expected to have a household of his own.

I recommended Captain McKinley to the Adjutant General for promotion and command of one of the field hospitals which Illinois would eventually have to organize. On informal word from General Dickson, that my recommendation would receive favorable consideration, I (also informally) advised my friend to consider himself free to devote all his spare time to quietly organize a company. I told him that, when the time would come (and that would be soon enough), it would be well to have seventy men ready to pass the physical tests and take the federal oath as soldiers.

I was left the only officer. My non-commissioned officers were quickly adding, from week to week, carefully selected men. There was never any fear of the roster not being full—we had too many applicants for that.

The reader may be interested to know what became of the remaining four officers (there were six with each field hospital) since November 3. Two, the youngest ones, who were commissioned just as we were ready to proceed to San Antonio, betrayed absolutely no interest in the military work and were asked to resign. One resigned

on account of heavy professional duties. He later rendered valuable services as a reserve officer. One was transferred to another unit in the interest of the service.

**War Enthusiasm Not Great**

As far as I could observe conditions in Chicago, the declaration of war against Germany produced less excitement than the calling out of the National Guard troops of New Mexico, Arizona and Texas about a year ago, and that in spite of the fact that the regular army had had a "punitive" expedition on Mexican soil for some time.

The newspapers continued to bring official communiqués from allies as well as from our enemies, at least for some time. Crowds of interested "fans" still hung around in front of the newspaper offices, still argued, and still continued to enlighten the ignorant on the strategic develcpments. There were fewer bloody heads and blackened eyes, however; Teutonic sympathizers evidently feeling that their "popularity" was at an end. Even before stringent orders from Washington had prohibited free *talk* (not, *speech*), individuals made sure that they could trust their audiences before they expressed antagonism; for, loyal though somewhat exuberant patriots had the habit of silencing such grumblers in very primitive fashion.

I recollect an open-air meeting of protest against the war. The speakers were very prominent—fools. A few policemen in civilian clothing ended the meeting before the society lads had a chance to "incriminate themselves."

I felt then and I feel today that, whenever society people, so called, sons of intellectuals, that is to say long haired men sharing the ideals of short haired women, were talking against the war, they sought imprisonment as one of the surest ways out of what may mean mutilation or death.

On the whole, however, people went about their business calmly.

**Compared With Twenty Years Ago**

When the "Maine" was blown up in Havana Harbor, the nation tried to suppress its deep emotion until it could act. What followed is well known even to our younger generation.

In October (of 1917), I happened to be in Galveston to deliver a lecture on a professional subject before the senior students of the University of Texas Medical School. I felt that nearly all of these undergraduates would have an opportunity to serve in the Army when they graduated, and I said so in my introductory remarks. After the lecture, the Dean told me of his experience with his classes during the Spanish-American War.

He was lecturing; not, like I did, on a subject pertaining to our work in war, but on a scientific problem, when suddenly the boom of cannon was heard in the harbor. With the cry: "The Spaniards are coming —let's enlist!" the entire class rose in the midst of the lecture and marched to the recruiting station.

We had no such scenes now. One may be sincere though not absolutely truthful by saying that the war against Germany was not popular—just then.

I do not think that the presence of many German sympathizers among our own people had much to do with that. The issues at stake were not fully understood by our people. The ruthless submarine war by Germany would have shocked the entire nation had an American warship been blown up. As for the 'Lusitania' and other passenger boats, I heard many express themselves to the effect that these rich people sought excitement and adventure in spite of knowledge of the existing conditions, and that they got what they sought.

Personally, I am inclined to think that the prolonged war between the Central and Allied powers had so habituated our people to the thought that sooner or later we would be drawn into the vortex, that when the expected did come it failed to thrill.

But, everybody realized that this war at least would not be fought out by enthusiasm only. The Germans were fighting like mathematicians. Hysteria can not annihilate science. It would have to be science against science.

The mere fact that, for days after the declaration of war, no established units were mobilized nor recruiting propaganda authorized, caused even laymen to feel that at the Capital plans were being perfected for an offensive on a sufficiently large scale to crush the huge German, Austrian, Bulgarian and Turkish armies.

Our nation had suddenly graduated. Sophomoric exuberance was out of place. There was serious work ahead.....

**Recruiting Experiences**

About ten days after the declaration of war, the President issued a proclamation

calling for volunteers to fill the ranks of the Army, National Guard and Navy to war strength.

Recruiting scenes could be seen all day long on almost all important thoroughfares, in empty stores and in large lobbies of business buildings. Officers and enlisted men of the National Guard used brass bands and automobiles in open-air recruiting work. They were assisted by pretty young women who called on every man of serviceable age to enlist. The response left much to be desired—the general enthusiasm which later permeated our entire country lay very dormant.

To stimulate recruiting as well as to arouse enthusiasm, a mass meeting in our largest theater was arranged as a patriotic rally. Local military organizations were to send small delegations only, as it was feared that seats would be valuable. I secured tickets for members of my family. Among the prominent speakers, was a former Secretary of War. I, myself, felt that at last something worth while had been organized by our public-spirited citizens.

To my great surprise, there were many free seats left in the balconies. Most officers were seated on the stage. We saw detachments of troops march into the auditorium, each carrying regimental colors or a guidon. As the units were recognized, there was hand clapping. One could tell by the intensity of the noise how many friends the units had in the audience. Boys from the Naval Training Station came into the hall with a well-organized naval band. Their reception was genuinely warm. Tonight at least the future Farraguts scored.

The national anthem was played. Officers stood on the stage, right hand at salute. The uniformed men in the audience stood at attention. The entire audience followed suit with a vim.

The speakers pointed out the great needs of the nation, the seriousness of the war, the power of the biggest and best organized fighting machine of the world—certainly timely addresses. After each speech, there was spasmodic hand-clapping, and, after the last number on the program, the audience walked out calmly.

"Pretty frosty," a friendly officer remarked to me after we had reached the street. "What do you think is the matter with our people?"

"Nothing is the matter with them," I replied, "except that they have been spoiled. They came to hear the eagle scream and instead they were handed a treatise on how to wage a real war. Wait till the first ship loaded with our troops leaves Hoboken—you'll see some sights."

But we saw the "sights" long, long before.

Field Marshal Joffre came to make an earnest plea to send some troops at once. The sight of the hero of the Marne in his French general's keppi caused cheer after cheer to reach his ears as his carriage passed the multitudes.

The military of Chicago stood in line on Halsted Street forming the military setting for the Field Marshal and his party, as he was about to enter the biggest auditorium Chicago possessed. They reported that his address, though few understood him, was followed by deafening cheers.

The next few days did not see recruiting ended. Evidently, the various regiments in Chicago had still some difficulty to secure enough recruits.

They sent for—Theodore Roosevelt.

**Enter Roosevelt**

I am hardly given to deifying human beings, and, what is more, I have not always been in full accord with everything Roosevelt ever said and did; but, I must confess that for effect on the people I would have decried the story as the vaporings of an enthusiast, had I not beheld a scene which simply defies description.

Several years have elapsed and, as I write these lines, that scene is before me as if I had seen it but yesterday.

Imagine an auditorium seating perhaps more than ten thousand persons. White arc lights produce brilliant illumination. Bands are playing patriotic airs. The Marseillaise is given an ovation. The huge structure re-echoes the countless voices of the chatting thousands when the bands do not play. There is much craning of necks. Half an hour has passed since the orator of the evening was announced to be due and the audience betrays restlessness.

Suddenly there is pandemonium. Even before I could see him, I knew that Theodore Roosevelt was in the hall. He appeared through a side door, followed by distinguished citizens and army officers. From the door to the stage his walk was comparable only to a triumph, such as no prearranged affair of royalty ever en-

joyed. Then, when he reached the stage, he took off his slouch hat and waved it to the yelling crowd in salute. And every time he waved his hat, deafening roars came from the thousands of throats.

For fully fifteen minutes did this ear-piercing, nerve-shaking, heart-pounding salute to uncrowned democratic royalty continue—until the energy was spent.

Then the speech. What he said was nothing new. Others had said the same thing before him and had not produced a ripple, but every time he alluded to the flag, to the need of conquest, to his desire to contribute his share, the response from the audience was volley-like, spontaneous, heartfelt———

Truly, I saw before me sleeping patriotism being roused into awakening.

The very next day, two of my Mexican Border veterans came to me and asked me to approve their discharge to enable them to enlist in the Marine Corps. I did not like to lose two trained soldiers and tried to assure them that the medical department of the Army, especially those units which serve at the front, could render at least equally as important service as the Marine Corps; but, there was a lustre in their eyes against which my philosophic conception of the importance of the sanitary service of the Army was futile. So, I approved their discharge.

Both men fell at Chateau Thierry.

Recently I saw the mother of one of them. She told me how she had regretted it that her son had not listened to my advice.

I looked into her tear-dimmed eyes.

"Mrs. ———, all I can say to you is, that I envy you."

"Yes," she whispered faintly, "I am very proud."

Recruiting for my own unit to raise it to war strength proceeded without effort, the men themselves inducing their friends to enlist with the organization. My main concern was with the officers. I selected five young physicians from about twelve applicants. As they were almost all recent graduates, I could not expect famous specialists, nor was this necessary. I knew that my future assistants had good grounding in the practical branches of medicine, and what they did not know about the military side of the work they would learn soon enough. Word came that the field hospital was not to be mobilized until July 25. This afforded the officers an opportunity to watch drills, secure equipment for field service; in other words, we had a period of about three months for occasional garrison instruction.

But it all came differently.

Early in June, Col. Jacob Frank, Surgeon-General of Illinois, received a "puzzling" telegram from the Adjutant General. He sent for me and showed me the yellow slip.

**Difficult Orders**

"What is there 'puzzling' about it?" I asked Colonel Frank, in reply to his allusion.

"The puzzle is, who is going to do it?"

"Well, let's see, you have an assistant; then, there is—"

"Say, Major, I do not show everybody puzzling telegrams, and when I do show him one, I have confidence in him that he can solve the puzzle. You ought to feel honored that, knowing you as intimately as I do, I still have confidence in you."

All this good-natured raillery would not have been necessary had there been funds available at the time; for, the telegram merely directed that two additional field hospitals and four ambulance companies were "authorized" for Illinois. What it amounted to was simply: "Organize them!" Colonel Frank himself could not do it—he had too little time for that. His assistant felt that he lacked the machine. It was decided in conference that I had the machine behind me, and I was tagged.

I realized that, with the recruiting propaganda only partly successful in Chicago, with new regiments being organized, with brass bands, halls, societies, and organized women to compete, I was up against "some" task, but after a few moment's reflection I told the chief surgeon that I was ready.

I decided on an inexpensive yet effective propaganda, provided that my men would volunteer. There was no difficulty in that direction, for, as soon as I placed the situation before them, about fifteen men were prepared to give up all their time without pay, so long as they were assured of necessities; the rest were willing to give up part of their time.

After consultation with the authorities concerned, my unit, which had complete field equipment, pitched one evening the

hospital tents on the lake front, a park which had afforded camping space to large and small military organizations during the past few years.

When I arrived at the camp the following morning, I found breakfast prepared. My tent was even floored and chairs, tables, cot and other utensils all arranged in it so that I could move in. I donned an old field uniform and began work.

Suddenly I heard "reveille" sounded. Looking out, I saw a detail hoisting the national and Red Cross flags on a collapsible flag-staff.

I sent for the trumpeter to find out why reveille followed instead of preceding breakfast. The answer was simple. He just arrived at the camp and he could not forego the pleasure of letting the passers-by on Michigan Boulevard know that there was a military camp pitched across the railroad tracks.

A newspaper announcement was drawn up, typewritten and sent to the local daily newspapers. We did not get choice positions nor adequate headlines, but we had at least some publicity, and, indeed, a few men came up to the camp to enlist.

The first few days, the outlook was not very promising. Sometimes a man would come in and admit that he had been rejected for this or that physical shortcoming for service in the line. Usually this referred to vision. Sooner or later, rejected recruits learned that the medical department had less stringent demand for acuity of vision than the line and they consoled themselves by joining the medical service.

When I suspected that a man tried to enlist in the ambulance companies as a refuge from line service, he was refused examination. One could hardly miss guessing.

"How far from the firing line are the field hospitals?" a prospective recruit (Oh, you guessed it right, reader; he *was* a candy kid) asked me.

"Oh, anywhere from one to ten miles," I replied.

"And the ambulance companies?"

"They go right up to the line."

'I say, Sir, I wish to enlist in the field hospital."

"Sorry, but all vacancies are filled."

"Don't you think there is going to be any vacancy very soon?"

"You mean before the draft goes into effect?"

"Precisely."

"Well, no, then. I think you had better join the Ladies' Military Sewing Circle—that is much safer."

I presume the reader has formed an opinion that the author was just crude and arrogant in dealing with that class of men—but wait a moment.

Candy kid was not to be blamed, but mother was; and it is only by a tongue lashing that drove the blood to his face that his manhood was aroused. You must believe me when I tell you that this same young man, after a long fight with his mother, finally received her blessing and joined the Aviation Corps.

Several of the newly commissioned officers came over to our little recruiting camp. This enabled me to hasten the physical examinations of the applicants and to visit lodges, Y. M. C. A. halls, church societies, etc., where I was scheduled for short talks on the medical service in the Army. A number of desirable young men were acquired by this effort.

My printer donated several thousand hand bills which were distributed among young men passing the busy streets. A sign-painting firm contributed a very large canvas sign which was displayed in front of our camp and which could be seen for some distance.

Recruits came daily, gradually company after company was being filled up. We had serious difficulties in securing officers for the ambulance companies. Those who were too anxious to come in were not particularly desirable. Several who were tendered commissions, or at least recommendation for commissions, hesitated, apparently because they did not know whether they did not prefer to stay at home; and thus every day brought its successes, but also its annoying features.

For a while, I fed my loyal workers at my own expense. When the women physicians of Chicago, before whose society I had delivered a complete course on military surgery, heard of this, they not only presented me with a check themselves but secured support from several prominent women, so that for a while at least the wolf was kept from the camp.

Colonel Frank, when he realized the true state of affairs, not only gave me a substantial sum but secured an authorization for a dozen men to be put on a duty status.

This gave each one dollar daily and their rations. I might add that, later when the ambulance companies had already been accepted in the federal service, and were being held together in the Coliseum building until quipment could arrive, Colonel Frank looked after many of the boys who were lacking in essentials.

The Government was, of course, abundantly capable of looking after its men, but, as the newly organized units were not yet concentrated, everything could not be provided for instantly. Lots of little things each recruit is assumed to have with him, but there was a goodly number of young men who had lost their jobs and were penniless. In our little camp, they could always find a cot, a blanket, soap and towels, and above all, "three squares" daily.

One evening, the Chicago Medical Society had a military program. The Department Surgeon, Colonel Frank, and I were the principal speakers. The meeting, though fairly well attended, was, in my opinion, not a success, because there were too many in the audience too old to serve. I had hoped to see the hall packed with younger physicians, and I felt chagrined and irritated because they did not appear interested in military problems.

### A Quick Change of Scene

My wife insisted that I come home for one night at least, as I was nearly worn out. We snatched a light "after-theater" luncheon down town and drove out to my residence. It was lucky I had gone there, for, I found a yellow slip in the mail-box advising me that the telegraph office had made several attempts to deliver an official telegram. It was a quarter to midnight. I raced to the telegraph office, a few blocks away. The telegram directed me to report the next day at 9:00 a. m. at East St. Louis for general court-martial duty.

All standard night trains for St. Louis, Mo., leave before midnight.

By frantic telephoning, I learned that a local train leaving at about 1:30 a. m. would connect me with another local—a milk-train—and that another train would bring me to East St. Louis at noon the next day.

Packing up a few essentials and leaving a number of instructions for the officers in camp took but a few minutes. As I had ample time, I went to the railroad station by elevated road and there filed a telegram advising the general in command of the troops at East St. Louis of my unavoidable delay.

It was sleepless riding in grimy old cars, delays of an hour or longer at small stations, a halt of a few minutes at Springfield, not enough time to swallow a cup of coffee; but arrival at about noon at my destination.

I learned from a soldier that headquarters was at the Hotel Illmo (Illinois-Missouri), two blocks from the station.

Immediately after my arrival, I reported to the President of the Court. He asked me where my automatic was. I countered by suggesting that a hypodermic syringe would be more deadly in my hands. This brought about a laugh in an atmosphere charged with anxiety or some unexplainable depression, for we all knew that we were to try a soldier for the murder of a resisting citizen, and that the city demanded justice of the one-sided variety.

The court had not yet organized and would not meet until 2:30 p. m. This gave me ample opportunity to clean up and eat my breakfast-luncheon at leisure.

### On Court-Martial Duty

The trial lasted several days. In spite of the intense heat and the long hours during which the thirteen officers constituting the judges had to sit in cramped, uncomfortable positions, the proceedings were followed by all concerned with keen interest throughout. The state had an able judge advocate bent on conviction. Alongside of him, by common consent, sat the State's Attorney, occasionally cross-examining witnesses. The defendant had, as counsel for the defense, an infantry captain* but a trained lawyer, who "tried" the case with all the obstinacy seen in small-town courts.

Many times points of order were raised, objections offered which had to be overruled or sustained by us, compelling us to withdraw from the court-room for consultation among ourselves—and all this procedure was practically new to me.

As commander of an independent unit, I had the prerogative of appointing an officer as a "summary court" for the trial of minor offenders. That part of the manual pertaining to summary courts I knew per-

*Now Lt.-Col. Oscar C. Smith, Judge Advocate-General Dept.

fectly, since I had instructed every one of my officers in the manner of trying, finding the verdict, etc.; but here was a regularly constituted judicial body, differing from a criminal court only therein that the twelve jurors were sitting en banc with the judge as judges. While in military courts fine technical points, such as would cause in a civil court a delay long enough to consult the authorities, are not supposed to be raised; the main idea being to give the accused a fair trial according to a prescribed ceremonial, in this case judge-advocate and counsel for the defense fought on each occasion so hard that for some time I fancied both officers were enemies. All this proved of great value to me, though I did not know it then. A few months later saw me presiding over a general court-martial, and the experience gained on this occasion helped me over the first cliffs.

Colonel Frank was also a member of the court. Of course, we were not permitted to talk about the case even among ourselves, but we found plenty of material to talk over the recruiting work in Chicago, daily telegrams keeping us informed as to the progress made during my absence.

Finally the trial was ended. We went home by a night train and arrived early the following morning in the Chicago camp, just as the bugler was sounding the call for breakfast. There were but few days left, and we went at work with a vim. At the last hour, late in the evening, four companies of men in civilian clothing lined up alongside the camp. A federal officer called the roll and each man called stepped forward and was inspected. All this was done by lantern light. The companies were mustered into federal service, all previous formalities having been complied with. My work as recruiting officer for the sanitary train of the Illinois Division was ended.

I do not desire it to be understood that the credit of this achievement is due to me alone.

### Colonel Jacob Frank

If Colonel Frank had merely directed me to go ahead and done nothing more himself, the question of delivering the requisite number of carefully selected men within the official time limit would have been one fraught with many insurmountable difficulties. Whether one or the other officer, who had the promise of a command of one or the other of the units to be recruited, assisted in the work, is of no moment, since decentralization of the work was merely a utilization of all available resources. It was not more than right that each future commander should help in getting his future subordinates. I have already told that Colonel Frank helped in every way possible.

Here was a man, well-known as one of the foremost Chicago surgeons, whose services in the hospitals are sought by many, whose intense, unalloyed patriotism did not permit him to let others do the work properly assigned to him.

He came to camp every day except during the period spent on court-martial duty, gave active advice and directions, spent large sums of money without any hope of return, and, long after the units had been sworn in, he and his wife went about the men who happened to be in poor circumstances, providing necessities until the first pay and equipment could be obtained from the Government.

All this was done unheralded in the newspapers. But, in the hearts of every man of what eventually became the 108th Sanitary Train, is engraved the name of Jacob Frank as the shining example of true patriotism; true, because free from self-seeking, from public applause, from official or private reward, except that which comes from the consciousness of service rendered one's country!

### Official Mobilization

The official mobilization of my unit, on July 25, 1917, amounted to just this; that at the morning roll call every officer and man had to be in camp and on duty. It required but one order to fix the day's labor, consisting of drills and class work. Fatigue details were handled in the office. The very first day, an officer read the Articles of War for the benefit of the new members.

The other field hospital mobilized the same day, pitching camp across the street. The two new field hospitals received part of our tentage and equipment until they could secure their own, so that all four field hospitals were camped in one group.

The work done by each field hospital was about the same. Entertainments to raise company funds were arranged by the men themselves. For my unit, I sent out solicitors to secure funds for a field kitchen. I

wanted my company to have the best possible outfit, and a rolling kitchen was then not part of the official equipment. In about two weeks I had about enough to conclude a contract which involved the expenditure of about two thousand dollars.

Early in August, the first field hospital was ordered to Camp Logan with the advance details. Routine examinations by special examiners for heart disease, tuberculosis, and so on, were concluded. Each member had been vaccinated against smallpox and had received the three antityphoid injections. We had not lost a man though one or two were held under observation. As commanding officer, I had little to say about these "suspects"; as a physician, I had my own ideas.

**Major Stanton's Busy Department**

But a few days before, I happened to be in the office of the Department Surgeon. I was shown papers which convinced me that men appointed to examine recruits had not the least idea about their duties, for they discharged men for deviations from the normal which amounted to nothing. There would have been left but a very few men for military service if all examiners interpreted the human anatomy the same way. Of course, the Department Surgeon sent a sizzling telegram, and the three doctors in uniform stationed several hundred miles from Chicago received their first bitter lesson in efficiency.

I went to the office of the attending surgeon of the Department. The office was placed in charge of a specially qualified examiner—Major Samuel C. Stanton who, some years ago, was Surgeon-General of Illinois and later was retired with the rank of brigadier-general.

Another retired brigadier-general and surgeon-general of Illinois, a surgeon of note and man possessed of wealth, accepted a commission as captain in the medical reserve corps and served throughout the war as Major Stanton's assistant, though Stanton had been that officer's adjutant and assistant in the Guard. To this must be added that this distinguished gentleman had reached three score and ten in life. Every Chicago surgeon knows this man. I shall name him as a shining example of self-sacrificing patriotism — Captain Charles Adams, M.R.C., U. S. Army (Brigadier-General, M.C., Ill. N. G., retired).

Stanton and his assistants were busy from early morning until late at night examining candidates for commission in the aviation corps. The tests were exacting and carried out with painstaking care. Men who are to render service high up in the air must not only have "steady" nerves,

Samuel C. Stanton, Major, M. R. C., U. S. Army.

but their vision and hearing must be absolutely normal. The least defect of vision or hearing would disqualify for that particular service, though these men were still available for service in the line or on the staffs.

At that time, an examination for appointment in the regular army medical corps was being held in another room. Stanton, who was in charge, asked me to remain a few minutes in the examining room to watch that no one resort to unfair methods. I picked up a questionnaire and, after reading it with care, had to admit to myself that, after over two decades of active practice, fifteen years of which were spent as a general surgeon, I could not pass that examination—not, at least, until I had had an opportunity to spend fully three months in actual preparation.

This, then, can be said of every medical officer of the regular army, that his professional education has been such as to

guarantee detailed knowledge of the most intricate problems in anatomy, physiology, chemistry, pathology, and the practical (clinical) branches of medicine and surgery.

I have studied the questions proposed by even the most exacting state boards of health in their examinations for licensure, and I can state without fear of successful contradiction that they can not be compared with the army examination. After this statement, I trust that the public will appreciate the fact that, when the Government promises medical care to our regular army boys, the soldiers are sure of getting scientific service which only the rich can secure provided they select reputable practitioners and avoid the ill-trained and loud-mouthed charlatans.

In the National Guard and the other volunteer corps, the examinations, if held at all, were rather informal. Accordingly, in countless instances men were commissioned who had no other qualifications than a diploma—occasionally from a school which was of questionable repute.

After the ambulance companies were organized, a doctor was commissioned on the recommendation of a commander of an ambulance company. A rumor reached me that this man was not a graduate. I told Colonel Frank about it. He advised a careful but quiet investigation. I saw this man in camp and noticed that he wore the letters U. S. instead of Ill. on his collar. I called him to account and he promised to change the insignia.

A telegram had arrived from New York stating that he was a licensed physician. Meanwhile, the man was arrested by federal authorities for illegally selling opiates. Then it was discovered that the telegram was a forgery. Of course, his commission (state) was cancelled. This man had sufficient knowledge to convince any casual observer that he was a man of scientific attainments.

August 18, 1917. The entire unit, excepting the clerks and cooks, left camp right after breakfast for a forenoon maneuver. At eleven we returned to camp, dusty, tired and happy. Everything had come off in great shape. There were no papers for me to go over, so I washed, lighted my pipe and stretched out on my cot to read the morning papers, as happy as one feeling sure ground under his feet can be.

**Ordered to Camp Logan**

An orderly called me to the telephone and explained it was a long distance call. I hurried across to the office tent. It was the assistant adjutant general, who informed me that he was forwarding a telegraphic order from the War Department appointing me assistant chief surgeon at Camp Logan. He extended his sincere congratulations. I managed to stammer out my thanks and asked him to send me a telegraphic copy.

The clerks had caught some parts of the conversation. When I looked at them, their faces betrayed a mixture of sadness and horror. Indeed, I felt as if a calamity had struck me down and, after saying to the loyal fellows something about losing them, I went back to my tent unable to shake off a feeling of deep depression, of impending trouble. All joy had gone from my heart.

In a few moments, everybody in camp knew about it. Officers came congratulating me. McKinley came in last.

"Major Blech, I do not know whether to congratulate you or not, but I know one thing, Sir, you certainly deserve recognition, and I hope you will believe me when I say that, while I hate to lose your companionship, I am glad it is you who have been chosen."

But in my camp the boys went about their business as if the flags were at half-mast.

First Sergeant Ernest A. Anderson came to my office and forgot to salute.

"Sir, please call off the afternoon drills and classes. The men will be no good." Then the big fellow broke down, grabbed my hand and went like a child. A few hours later the telegram came. I left camp and went to Department headquarters. I showed the telegram to the Department surgeon and begged him to have the order rescinded. I told him I had only one desire in life now, to go with my boys to the front. The kindly chief must have realized what was going on in my breast, for, he made me sit down. He spoke earnestly. All I understood was that such an order meant recognition for previous services, that on the Mexican border my record had been excellent, that this was to be the stepping stone to bigger things, and that it was

contrary to army custom to refuse an order tantamount to promotion.

I saluted and returned to camp, a sad man. I had no confidence in the "bigger things" and, had a prophet appeared and told me about what eventually proved to be in store for me during the war, I should have cried out to be let alone.

Childish? I admit it today. However, I was primarily a field hospital man, a job which was so much to my taste that I devoted all my energies not only to the development of the unit but to my own perfection. I had followed the authentic reports of every modern war, had even spent Sunday after Sunday making maps and had developed the knack of maintaining discipline even among unruly elements, without undue show of force, through the simple "trick" of sharing their hardships in the field.

This will perhaps explain why my new appointment did not please me and, though it brought me a federal commission shortly afterwards, it required several months before I became partially consoled to the situation. Late in the afternoon, Colonel Frank, Major Stanton and a number of friends in the army called on me. They remained until a late hour. In the evening, wife and friends from civil life thronged my tent. I called the demonstration "a wake with the corpse living but not enjoying it."

Although my order read to report to the Commanding General of Camp Logan not later than the 25th, I decided to wind up my affairs and leave as soon as possible.

On the morning of the 21st I relinquished command, leaving the company in the hands of the five newly appointed lieutenants, the senior temporarily in command. I gave the officers well-meant advice to the effect that the temporary situation and their own inexperience required care in handling the men.

Before noon, I called the company together and made my farewell address. I admonished them to maintain their reputation for efficiency and discipline, come what may, and that I would watch over them as long as I remained with the 33rd Division. I asked them to go about their duties as if nothing had happened.

In the evening, several officers and some friends took me to a restaurant for supper and escorted me afterwards to the railroad station. There I found the entire company drawn up. The men were singing a farewell song. I passed the front bidding each man farewell. Friends and family came last, then I jumped into the car. I sat many hours in the smoker—sleep would not come.

I spent a good deal of the next day in St. Louis. I visited a friend, a medical publisher, and endeavored to interest him in the publication of a book on detection of malingering. My friend did not seem overenthusiastic from a financial point of view. But, I told him that in Chicago I had been approached by a rich man who wanted me to produce an artificial hernia on his son to escape military duty, that other physicians had to resort to threats of exposure to rid themselves of these pests; that there would be much malingering in the camps, and that I felt sure many medical officers would buy a practical manual on the subject. He promised to publish the book.

I may remark that I never completed the manuscript, since I discovered later that the better class of specialists in the service were entirely too clever for the malingerers and that they knew more about the scientific methods of their exposure than I had given them credit for.

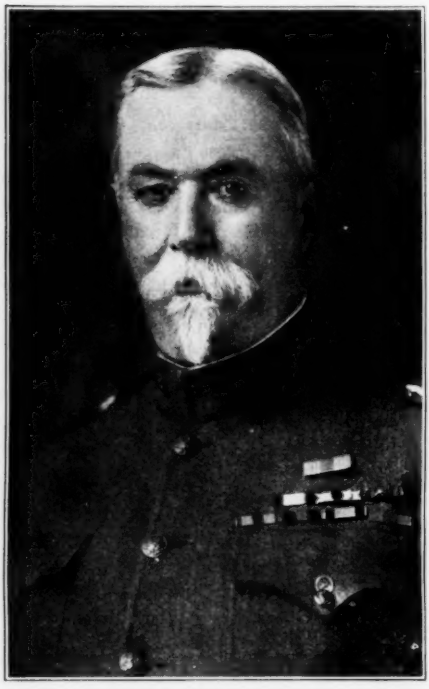
The next afternoon, I reached Houston, Texas, and was driven to the Rice Hotel. Through an afternoon paper, I learned that the Division Surgeon, Lt.-Col. Levy M. Hathaway, was already in the hotel. I met him shortly after my arrival in the lobby and introduced myself.

My first impression of the man under whom I was to serve was not very favorable. He was a Kentuckian and his peculiar accent caused me some difficulty to understand all he said. He did not seem anxious to engage in conversation. I managed, however, to convey the information that I had not sought my present job and would be happier in my old command.

"Oh, you will have more than one field hospital to look after," he said enigmatically. Evidently he looked upon the war from a broader view, while I was still too selfish to look beyond my own small horizon.

Major General George Bell, Jr., who had been designated the commanding general of the 33rd Division and Camp Logan, had not yet arrived, and would not arrive until the 25th; so, there was nothing for

me to do. I went to my room to clean up, dined and then visited a ten-cent show (raised to 25 cents in honor of the newly arrived troops), to see Mme. Petrova. The show was over and I started for the hotel.



Major General George Bell, Jr., Commander 33rd (Ill.) Division, U. S. Army in the World War.

On the street, something I did not comprehend took place. Though I was a stranger in town, rolling masses of humanity, cries and shouts, made me feel that something had occurred in which I must take an interest.

**Race Troubles**

Near me, in front of a store, was a hooting, yelling crowd. Against the door stood a tall, pale, Reserve lieutenant. Young men were shaking their fists at him. "Nigger-lover!" some yelled at him. The lieutenant stood silent and resolute. "Guns! Guns!" others were yelling. "Give us guns!" I still did not understand. I only saw a brother officer in trouble. I squeezed through the crowd to reach his side. A youngster was shaking his fist in the lieutenant's face. I grabbed the man's arm. "It means Leavenworth penitentiary if you attack that officer," I yelled at the top of my voice. The man desisted. "What is it all about?" I asked the lieutenant, "can I help you?"

"No, Major, do not trouble, they are national guard boys, I have telephoned for help."

Suddenly there was heard a voice; an order to march to the armory. The boys left. A moment later I saw several of the Chicago field hospital boys who had been

Col. Levy M. Hathaway, Division Surgeon, 33rd Division, U. S. Army.

sent on as an advance detail. They explained the situation to me. A battalion of negro troops of the regular army, stationed in front of the concentration camp as guards, had mutinied and were shooting up the town. The boys seemed to be excited because they could not return to camp, so I told them to come with me to the hotel where I could report to the Division Surgeon. In the lobby of the hotel, I saw Mrs. Hathaway who informed me that the Colonel had been looking for me. Finally we came together and Colonel

Hathaway decided to take in the situation on the spot. A Ford machine operating as a jitney was "commandeered," some of our soldiers hung on as best they could and we drove towards the camp.

At the intersection of the streets, fronting the camp of the negro troops, national guard soldiers had thrown up a sort of barricade. One officer standing on a wagon, cigar in mouth, was assuring the crowd, many of whom were armed with shotguns, that the military would handle the situation if the people would not interfere.

Colonel Hathaway insisted on entering the negro camp and I had to follow. At the gate, we met a negro sentinel rifle in hand, who appeared to be frightened. He gave us very little information. A negro hospital corps soldier told of negro soldiers having been shot by white policemen.

The scene of the shooting was several blocks away. Rumors reached us that white police officers and an army officer had been killed and that a posse had been organized at the camp. It was evident to me that two unarmed officers could do very little in dark alleys and streets in a strange city, and I assured Colonel Hathaway that our wives did not care to become widows at this stage of the game. Finally he consented to return. Our jitney driver, whom we had paid well, had escaped as soon as we had left. We were driven back to the hotel in a private car.

The unfavorable impression of my chief had given way through this incident. He was a man who did not know fear; that much was certain. But, professionally I held the opinion that he was a sort of country doctor who had had no opportunity in the Army for professional development. It was later, however, that I learned that he had a fine medical and general education, though he was not a college-bred man. He had served an interneship in St. Marks Hospital in New York under my late, lamented friend Carl Beck, so that, in the long hours together in camp, we found much of mutual interest to talk about.

I have said he was a native Kentuckian, a mountaineer, and yet he spoke German amazingly well and had a good deal of familiarity with the German literature. He was very fond of music.

A little incident of an amusing character will illustrate this. One evening after the day's work, Colonel Hathaway took a few officers, including myself, in his automobile to town. On the highway he began to sing a German song by Heine:

"Du bist wie eine Rose,
So hold und schön and rein—"

An officer remarked that that was rather a dangerous song to sing in these troublous times.

"Oh, I am not afraid. I am going to blame Blech. With his name and pronunciation—it's a cinch."

"But not with my voice," I countered.

"Oh, I am going in for opera."

"Do, Colonel, for you need it d— badly."

After this he sang only in an undertone.

**Reporting to General Bell**

Two days after my arrival, an aide-de-camp presented me to General Bell in the lobby of the hotel. With him had come a number of staff officers. Our interview was very brief. He asked me about the organization and equipment of the sanitary train. I told him in a few words that we had a full complement of field hospital and ambulance companies, but that only the oldest two field hospitals had had military training and were equipped for field service. Then I saluted and withdrew.

General Bell made a splendid impression on me. Tall and rather heavy set, with gray moustache and imperial, he looked every inch a soldier and leader.

I had heard, before leaving Chicago, that he was considered a terror in the Army, that he was ruthless and autocratic, and that to serve under his eye meant to be compelled to continually watch one's step. He did not impress me that way when I first beheld him.

Later I discovered that he really was a "terror," but only to those who were insincere, indolent and remiss in the performance of their duty. And, what true soldier can help but approve when the heavy hand of merciless justice falls on those who, despite repeated admonitions, fail to live up to their oath?

But, let a man have the stuff in him and give the best that is in him, and no treacherous enemy, no sinister influences, no amount of calumny need be feared, for the ears of the general proved deaf to his defamers. Thus he stood like a rock.

I shall have more to write about him and his hastily organized staff.

[*To be Continued.*]

# Return-Flow Intestinal Irrigations

By SIDNEY H. ADLER, M. D., New York City

IN this age of simplified and direct medication, the use of enemas and intestinal irrigations has come to be recognized as one of our most useful means of combating toxemias.

Since the large intestines are the cesspool for the body and constipation is only a relative term, thorough elimination of toxic end-results of digestion, with a minimum of damage to the parts affected, can be brought about by the copious and intelligent use of water.

### Uses of Enema

The purpose of enemas is, to secure the effects enumerated as follows:

1. Rapid evacuation of the lower bowel,
2. Relieve shock,
3. Acute prostatitis (alternating hot and cold).
4. Nutrient,
5. Relieve spasticity,
6. Medication of inflamed areas, proctitis ulcerations, etc.

These uses are self-explanatory.

### Method of Giving Enemas

Many persons take enemas in a sitting position, not realizing that they are only dilating the rectal pouch, causing the musculature to be stretched beyond its normal endurance, which will be followed by complete atony if the treatment is persisted in. The use of "cascades" is even more dangerous, for, here the hard rubber nozzle cannot be manipulated as easily as the tip of a fountain syringe, and fissuring of the anal mucosa can easily be caused if the tip is not sufficiently lubricated. Attempting the passage of a rectal tube up into the sigmoid, is another fallacy. Differentiating high from low enemas is only one of position of the body. Water tends to run down and, once the tip of the tube is within the rectal cavity, the position of the body is all that is necessary to cause the flow up into the sigmoid. There are three natural hindrances to the passage of the tube into the sigmoid: the rectal valves, O'Beirne's sphincter, and the natural reduplication of the sigmoid. Retroflexed uterus, tumors, spastic sigmoid (when present) also help start the tube on its tortuous journey around the rectal pouch. There are times when the tube can be passed, especially if the water current is used to dilate the way, but it is an absolutely unnecessary procedure. Allowing the buttocks to be raised, the pressure from the reservoir is enough to force the water up into the sigmoid and descending colon.

For enemas, we have found the knee chest position with hollowed back the best. For the instillation of oil, the exaggerated knee chest or head position. For irrigation, the Sims and dorsal.

### Return Flow Irrigation

Return flow irrigation—when correctly given—show the best results. The water, flowing in and out, thoroughly washes the entire length of the large intestines. In colitis, mucus which is not affected by an enema is either loosened or removed by lavage. Small particles of feces lodged in the glandular openings are carried away in the water current.

We have found that giving an enema first, preceding the irrigation, is an absolute necessity; it removes the mass in its entirety where otherwise it would in many cases stop up the tube and retard treatment.

Medicated water should be used depending on the condition of the mucosa as viewed sigmoidoscopically. The giving of the treatment in the same way with the same solution for each and every case, without considering the idiosyncrasies and pathological conditions underlying, is bad practice, to say the least, but one can not expect better treatment if it is left entirely in the hands of the nurse or laity.

Spastic constipation, a condition where good results are often obtained by irrigation, is very difficult to treat. The passage of the water is interfered with and the spasm is increased when force is used. The condition should be diagnosed before treatment is inaugurated. The water used in this condition should be hot and at a very low pressure.

Toxemias due in greater part to intestinal absorption, such as asthma, pyelitis, respond to irrigation treatment. Toxemias expressing themselves in compensatory diarrhea, as found in goiter, diabetes, nephritis, etc., are greatly relieved by irrigations, aiding nature's means of relieving the sys-

tem of poisons. In acute and chronic ptomain poisoning, the results warrant their constant and immediate use.

In fermentation and putrefaction, where the colon and streptococcus fæcalis, normally present in the intestinal flora, are replaced by fermentative bacteria, intestinal lavage is indicated. Here the use of mild antiseptics help remove the offending organisms. Transplantation of a pure culture of colon bacilli or of lactic-acid forming bacteria will help to bring the intestinal action back to normal.

In colitis, mucous or ulcerative (amebic), the results of irrigations are excellent. It must be remembered, however, that the conditions are usually chronic and do not respond readily to treatment. Spasm caused by the mucus are lessened; for, the mucus is either removed or loosened. The inflammation is reduced. Still, there may be acute exacerbations which may dishearten some. However, persistent treatment, correctly given, brings results.

In urticaria, angioneurotic edema and erythema, conditions caused mostly by absorption of proteins through the intestinal walls, the beneficial action is very rapid.

In children, prone to inflammation of the colon from the slightest indiscretion in diet, intestinal lavage relieves toxemia, nervous irritability and temperature.

### Method of Treatment

The patient receives an enema in the knee chest position. After the lower sigmoid and rectum have been emptied, the patient is placed in the left Sims position. The rectal tube is inserted about 4 inches until it is above the internal sphincter muscle, free in the rectal cavity. We have found no advantage in the use of a double tube except in the discomfort caused. Our apparatus is simply a rectal tube connected by a T tube to two other rubber tubes, one of which connects with the reservoir and the other with the outflow vessel, where the returning water is watched for mucus, blood, undigested food particles and worms.

A petcock is attached between the reservoir and the T tube and another between the T tube and the return flow vessel. These are alternately shut and opened.

When the lower sigmoid and rectum are cleaned, the buttocks are raised and the irrigation is continued. The patient is then placed on his back and light rotary massage, reverse to the normal peristaltic wave, is instituted while the water runs in. After this, the patient is turned on his right side. No irrigation is successful unless water remains in the intestines, for, this passes out in great part through the kidney and helps flush them.

Treatments should be given daily at first, then every other day, lengthening the time after a week or so, the frequency depending upon the underlying condition and on the results that are obtained. There should be but little discomfort during the treatment, although slight spasmodic pain is felt momentarily when the water reaches the flexures. There are cases, however, where the patient complains of pain from the instant water enters the rectum. The interpretation of the pain is, that it is very severe. Treatment in these cases is very difficult and often useless.

Each patient should be examined thoroughly before treatment is begun. This examination, whenever necessary, should include abdominal palpation, x-ray, fecal, urinary, direct proctoscopic and sigmoidoscopic investigations. Only by using every means at hand to make a correct diagnosis, can the best results be obtained by this treatment.

# The Microbial Symbionts of the Tongue and Alveoli in Health and in Pyorrhea Alveolaris

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[*Continued from September issue, p.* 628.]

**Microorganisms in Pyorrhea Alveolaris**

TWO distinct species of very actively motiles are constantly present in large numbers in pyorrhea alveolaris, namely the *Spirochæta microdentium* which resembles the *Spirochæta Obermeieri, and Vibrio (Spirillum) buccalis,* with a short, rather stout and curved to somewhat spirally twisted body tapering toward the anterior end, which bears a long, delicate, spirally twisted flagellum. The flagellum tapers toward both ends and is loosely attached to the cell, being easily torn loose in the violent movements of the organism so that the usual stained smear preparation will show many such detached flagella. The vibrio appears to be more resistant to antiseptics and chemicals than the spirochetal associate. The indications are that the S. microdentium with its associate (vibrio buccalis) are responsible for the calcareous deposits about the roots of the teeth. The organisms prefer an alkaline medium, being especially abundant at the duct-outlets of the salivary glands and it is in these positions that the tartar formation begins and spreads.

What the true relationship may be between the spirochete and the vibrio has not been determined. It appears to be some intimate form of symbiosis. The association bears a close similarity to that which exists between the bacillus fusiformis and spirochæta vincenti and, in both instances, it is for the time being undecided as to whether it is a form of symbiosis or whether it represents stages in the development of one organism. It is not an infrequent occurrence to find the spirochæta vincenti, with its bacillary associate, and the spirochæta microdentium with the vibrio buccalis, present in ulcerative stomatitis and in pyorrhea alveolaris. In fact, there are cases of apparently typical pyorrhea in which the dominant infection appears to be the spirochete of Vincent with the bacillus fusiformis. In consulting the literature on Vincent's angina, it would appear that the vibrio buccalis has been described as a form of the bacillus fusiformis, which is too evidently a mistake, as the two are widely different. The motion of the vibrio is almost a lightning-like to and fro movement. The progressive motion is rather limited. The free end of the greatly elongated flagellum soon becomes caught on some foreign particle as, epithelial cells, leucocyte, food particles, calcareous particles and the subsequent motion is of the violent, jerky kind just mentioned, the cell being lashed about to the distance permitted by the length of the flagellum. The motion of the bacillus fusiformis is a rather slow progression with side-to-side swing. It is practically determined that the bacillus fusiformis is merely a developmental stage in the life of the Vincent spirochete. Within twenty-four hours after an intravenous administration of neoarsphenamin, there is an enormous increase in the number of fusiform bacilli with a marked decrease in the spirochetal forms. The arsphenamin has absolutely no inhibitory influence upon the amebal forms present in the mouth cavity; in fact, there appeared to be an actual increase in this organism within twenty-four hours after the administration of this drug. The bacillus fusiformis, as well as the vibrio buccalis, can be cultivated in artificial culture media, whereas the spirochetal associates will not survive outside of their natural environment.

**Consider the Tongue**

The microscopical examination of the scrapings, taken from the dorsal surface of the tongue of patients suffering from pyorrhea, will reveal a remarkable condition. There will be found abundant localized nests of virtually pure cultures of staphylococci, each colony representing

probably several millions of individual organisms. Distributed over the surface of the tongue and between the epithelial cells will be found a varying number of the same organisms which occur in the mouth and in and upon the gum tissues. S. microdentium is especially abundant. The tongue crevices and tissue interstices are most admirably suited for the lodgement and development of microorganisms; no doubt the tongue is the mechanical means for the distribution of the mouth organisms and at the same time houses and propagates those oral-cavity symbionts which continue and spread the pyorrheal infections. It is rather remarkable that dentists have not more generally advised the vigorous application of the tooth brush to the tongue. The tongue does require an occasional cleansing in health as well as in disease and such practice would no doubt lessen infections of the mouth and throat as well as some of the intestinal canal.

**Complex Causation of Pyorrhea**

From the careful study of the organisms present in pyorrhea, it becomes evident that the causation of this disease can not be laid to one particular species. We have rather a picture of a somewhat complex and complicated symbiosis, in which the following groups undoubtedly play the important roles.

1. The leptothrix and perhaps also the streptothrix groups are biologically associated with the streptococci and the staphylococci, but this group prepares the way for:
2. The vibrios, the spirochetes and also the entamebas, which in turn facilitate the invasion by;
3. The bacilli of dental caries which attack primarily the tooth substance and no other tissue, and the bacilli of osseous necrosis which attack and destroy the osseous structure of the alveoli.
4. The spirochetes and also the entamebas are responsible for the softening of the gum tissue and the desposition of the calcareous matter; they develop and multiply in the alveolar area about the root of the tooth. In these positions, virtually pure cultures of the spirochetes may be found (especially of S. microdentum). It is these changes which result in the gradual loosening of the teeth mentioned in the foregoing.
5. The dorsum of the tongue serves as the breeding place for the staphylococci and also the S. microdentium and the streptococci. From this position, a new supply of these groups is constantly transported to the teeth and alveoli.

**Etiological Treatment**

Were it possible to destroy the organisms of group 1, including those of the dorsum of the tongue (5), the bacilli of caries and the spirochetes and the entamebas would gradually disappear for want of the sustaining symbionts. On the other hand, could we destroy the organisms of group 2, the symptoms of pyorrhea would also disappear. It is a proven fact that the use of ipecac and the thorough simultaneous removal of tartar have cured many cases of pyorrhea, for a time at least. When it was found that the mouth spirochetes (probably S. microdentium) were susceptible to salvarsan, cures of pyorrhea were effected by that remedy, administered intravenously and even locally. Again, cures have resulted through the use of bacterins prepared from the organisms of dental caries. From the picture presented further back, it is quite evident that it must be wellnigh impossible to find any one single remedy that would be likely to bring about a complete and permanent cure. The study of the occurrence and distribution of the many organisms, which evidently play a part in the causation and symptomatology of pyorrhea alveolaris and the associated infections comprised under stomatitis and gingivitis, suggested the use of an autogenous mixed bacterial derivatives, on the assumption that each of the organisms of pyorrhea will, when introduced parenterally, develop specific antibodies. This was done with the following results.

The first pyorrheal derivative used consisted of the night mouth secretions from a very advanced case of alveolar pyorrhea. Four teeth (two wisdom teeth and two molars) had already been removed because they were so loose and wobbly as to be a hindrance to mastication. The gums were inflamed and sore, with frequent and marked exacerbations of the symptoms, and several severe and sudden attacks of acute gingivitis, during the summer months, (1920). The gums and teeth were so sore that not a single meal could be eaten with comfort. The microscopical examination of the mouth secretion showed the following:

Leptothrix buccalis, very abundant.
Streptothrix, very abundant.
Streptococci, very abundant.
Spirochæta microdentium and Vibrio buccalis, very abundant.
Bacillus necrosis-dentalis, and B. necrosi ossei, very abundant.
Staphylococci, very abundant.
Entamebas, few.

Food digesting bacteria, very abundant.

In addition to these there were present:

Epithelial cells, very abundant.
Mononuclear leucocytes, very abundant.
Polynuclear leucocytes, abundant.
Granular microblasts, very abundant.
Organic granules derived from cell disintegration.
Erythrocytes, numerous.
Mucin or mucinoid matter, abundant.

**Preparation of Autogenous Vaccine**

The mouth secretion was mixed with twice its volume of dilute sodic hydrate solution to which was added about 0.25 percent of cresol. This was thoroughly mixed and allowed to stand for a period of twelve hours. At the end of this period, another microscopical examination was made and it was found that many of the microorganisms had gone into solution and no living organisms remained. The leucocytes as well as the erythrocytes had been completely disintegrated and the epithelial cells were much changed in form and partially dissolved. About 1.50 mil (Cc.) of this substance was injected hypodermically. A very marked general reaction developed, in the course of eight hours, consisting of a slight rise in temperature, increased pulse rate and a general feeling of discomfort, which symptoms again disappeared within twelve hours after the onset. Within three days after this initial dose, the mouth and teeth condition improved to a remarkable degree. There were occasional flashes of tenderness and soreness which soon vanished. The jaws could be firmly closed upon each other without experiencing the familiar alveolar soreness. The treatment was continued for two weeks at intervals of about four days, with further improvements in the pyorrheal conditions. After the initial dose, there were no reactions of any kind, either local or general. Along with the improvement in the pyorrheal condition, there was also improvement in general health. The after-meal drowsiness vanished and the ability to carry on sustained mental activities was improved. The microscopical examination of the mouth secretions and of the tongue and alveolar scrapings showed a marked reduction in the microbial flora. The erythrocytes disappeared entirely and the polynuclear leucocytes became reduced in number, but there was no reduction in the number of mononuclear leucocytes; they were in fact increased in number. The epithelial cells were markedly reduced. The tartar deposits still showed abundant spirochetes; but it is expected that a careful removal of this substance will result in a marked reduction in the number of these organisms. It is not expected that the teeth which had already become somewhat loosened will again be firmly rooted, but it is reasonable to suppose that they will not become worse and that they will give satisfactory service in the future if properly looked after and cared for.

The microscopical examination of alveolar deposits and secretions after a large dose of the mixed pyorrheal vaccine showed that most of the S. microdentium were motionless, frequently in tangled and agglutinated masses; but, whether or not they were dead, was not determined. The S. buccalis were numerically reduced, though not markedly so. The leuocytes and other formative tissue cells and also the entamebas appeared to be unaffected. This observation and the improvements noted, would indicate that the vaccine was effective against the bacterial flora inclusive of the mouth spirochetes but not effective against the S. vincenti nor the entamebas, and suggests the use of salvarsan and of ipecac as a supplemental treatment. Quite naturally, the necrosed osseous tissue of the alveolar sockets and of the tooth substances must be removed, all tooth cavities filled, and the tartar carefully removed, as a necessary adjunct to the vaccine treatment.

**Changed Bacteriology After Treatment**

A careful study of the mouth and alveolar organisms coincident with the improvement in the pyorrhea conditions following the administration (hypodermically) of the mixed bacterin and bacterial derivatives, showed the following:

1. Very marked reduction in the number of leptothrix buccalis.
2. Marked reduction of the spirochæta microdentium.
3. Very marked reduction in the number of vibrio buccalis.
4. Marked reduction in both the staphylococcic as well as in the streptococcic groups, of the tongue as well as of the teeth and alveoli.

Bacillary forms were not diminished. In fact, there were indications that the bacterial flora of the food particles of the mouth was materially increased. There seemed to be no reduction in the number of entamebas which, by the way, were few

in number at all times in this case. The lytic and phagocytic power of the epithelial cells and of the mononuclear leucocytes was apparently increased and the number of these cells was not diminished. It was quite evident that the different types of epithelial cells possessed a more or less specialized or selective bacterolysis and phagocytosis. The mononuclear leucocytes and the embryonic epithelial cells showed a marked preference for the coccus types and the vibrio buccalis, while the older, more mature epithelial cells showed a preference for the spirochæta microdentium and the bacillary forms.

**Conclusions as to Etiology**

The observations on the reduction of organisms, as noted, would indicate that pyorrhea alveolaris is caused by an excessive increase in the spirochetes and the staphylococcus as well as the streptococcus forms. The increase in the number of leptothrix and probably also the streptothrix forms is perhaps incidental and has no primarily causal relationship to pyorrhea.

The behavior of the epithelial cells and also of the mononuclear leucocytes would seem to indicate that they are endowed with marked bacteriolytic power, rather than phagocytic as has been more generally assumed or supposed. The embryonic epithelium usually shows a large number of adherent bacteria, motile as well as nonmotile forms. A few of these in some manner become engulfed into the interior of the cell, but the great majority remain attached upon the exterior and gradually become entirely disintegrated. As the epithelial cells become fully developed and matured, they develop the lytic power to a maximum degree but lose the ability of holding the bacteria upon the exterior, no bacteria being found in the interior of the cellular plasm which is now entirely clear and homogeneous. Any bacterial cell which happens to find its way into the interior of the cell is at once disintegrated and dissolved. The later changes in the epithelium are indicated by a gradual reduction of the nucleus which ultimately disappears, the cell membrane breaks down at certain points, perhaps due to autolytic action, bacteria find their way into the interior and gradually multiply until, by the time the cell is quite disintegrated, there will be found a mass of bacteria taking the place of the cell. This accounts for the occurrence of the almost pure colonies of bacteria among the epithelium of the tongue. The gradual dwindling and final complete disappearance of the nucleus is not satisfactorily explained, unless we assume that it also is dissolved by the lysins of the cell. Occasionally, the nucleus becomes involved in the bacterial invasion. The lysins of the embryonic epithelial cells appear to be especially active toward the lepothrix and the staphylococcic groups and the vibrio buccalis, less so toward the S. microdentium. Later, toward the end of their lytic activity, the S. microdentium group is quite actively dissolved. It is highly probable that the increase in the buccal microorganisms, which finally develop the symptoms of pyorrhea alveolaris, is in all probability due to a reduction of the lytic power of the epithelial as well as of the leucocytic cells. The improvement in the symptoms following the administration of the autogenous mixed vaccines is due to an increase in this power.

**Types of Pyorrhea Alveolaris**

The following is a classification of the principal types of pyorrhea alveolaris, based upon the character of the infection:

1. Ordinary uncomplicated pyorrhea alveolaris, caused by the excessive development of spirochæta microdentium and vibrio buccalis with the staphylococcic and streptococcic associates.
2. Amebic pyorrhea alveolaris. The same infecting organisms as in (1) but complicated by the presence of abundant entamebas (E. buccalis and E. dentalis).
3. Anginal pyorrhea alveolaris. The infecting organisms given under (1) but complicated by the presence of the spirochæta vincenti with its associate the bacillus fusiformis.
4. Complex pyorrhea alveolaris. Pyorrhea complicated by both the amebic and anginal modifications in varying degrees.

**Practical Conclusions**

The following suggests itself as the most rational procedure against pyorrhea alveolaris:

1. *Diagnosis.* The determination of the nature of the infection in pyorrhea will depend entirely upon the use of the compound microscope. There is absolutely no other way. Scrapings from the dorsum of the tongue, the teeth, inflamed tissues, alveoli and necrosed teeth and osseous structures, must be carefully examined by an experienced laboratory clinician; the diagnosis is based upon his findings, and the diagnosis cannot be made in any other way. Both,

unstained slide mounts and stained smears, must be carefully studied.

2. *Preliminary Treatment.* The accumulated tartar should be removed as carefully and as completely as possible from all of the teeth. Teeth which are so loose as to be nearly ready to drop out must be extracted. Necrosed osseous tissues must be scraped and curetted away, limiting this operation to the devitalized or dead structures only. All necrosed tooth cavities must be cleansed, sterilized and filled. Sound, that is, undecayed teeth, even though quite loose and wobbly, provided they do not interfere with mastication, may be curetted and left tentatively, with the hope of saving them.

3. *General Treatment.* In case of the ordinary uncomplicated pyorrhea alveolaris, in addition to the preliminary treatment outlined, there should be given the autogenous pyorrhal derivative. In case of the amebic form of pyorrhea, the patient should receive, in addition, the emetine treatment as proposed by Doctor Bass, using the Lloyd emetine (alcresta) tablets, four to six each day, two tablets at a dose, one hour before meals, continuing this dosage for three to six days. If the pyorrhea is complicated by the Vincent spirochete, but not the amebal form, neosalvarsan should be given intravenously, as practiced with great success in Germany and in France and recently also in the United States. A single dose of the neosalvarsan is usually sufficient to destroy the Vincent organisms. The remedy should be in complete solution before it is injected into the vein. In case of the complex infection, both the emetine and the neosalvarsan treatment should be employed for self-evident reasons. The whole treatment is quite simple and no complications can readily arise.

4. *After-Treatment.* Each case must be watched for some time after the complete treatment as outlined, in order to make sure that all of the possible complicating infections are under control or no longer exist. For this purpose, the compound microscope must be used. It need scarcely be mentioned that the usual measures of mouth hygiene are not to be neglected, even including the use of the tooth brush. Astringent mouth washes are indicated for a time after the treatment outlined. The local use of extract of ipecac and of neosalvarsan is advised for a time and at intervals, so as to protect against reinfection by way of the mouth.

In the light of a study of the infections which may be associated with pyorrhea, the reason of the failures of any one treatment must be quite evident. Merely removing the tartar can not effect a cure, though it may and does give temporary relief. Giving the neosalvarsan will correct the pyorrhea complicated by the Vincent organisms, but will not have any effect against the staphylococcic or the streptococcic or the amebic associates. Emetine is apparently of no avail against the spirochetal infections, its action being limited to the amebic forms. The pyorrheal vaccine of bacterial and body-cell substances is effective against the staphylococcic and streptococcic infections and increases the lytic and phagocytic activities of the leucocytes and the epithelial cells, but is without effect against the spirochetal and amebal infections.

**Summary**

1. The difference in the microbial fauna and flora of the mouth in health and in pyorrhea alveolaris is apparently quantitative rather than qualitative.

2. The symptoms of pyorrhea alveolaris develop gradually, due to a gradual increase in the leptothrix, amebal, spirochetal, staphylococcic and streptococcic groups of the mouth and tongue.

3. The mononuclear and polynuclear leucocytes with the epithelial cells of the mouth cavity play an important part in the regulation of the microbial organisms of the mouth in pyorrhea alveolaris.

4. Our knowledge of the symbiotic relationships of the fauna and flora of the oral cavity, and of the body cells (epithelium, leucocytes, erythrocytes), is as yet very incomplete.

5. The deposition of tartar (calcium carbonate) on the roots of the teeth is due, very largely, to the activities of the spirochetes and the entamebas. The abnormal mouth secretions in pyorrhea (mucinous saliva, bad odor, bad taste, reddish tinge) are the result of the microbic activity, hence, a sympton and not a cause.

6. The dorsum of the tongue serves as the breeding place for the normal as well as the abnormal mouth symbionts.

7. The prevention and the cure of pyorrhea alveolaris is a matter of rational mouth and teeth hygiene, combined with the use of autogenous pyorrheal derivatives, of emetine and of neosalvarsan.

# The Adrenal Glands and Their Relation to Modern Medicine

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[*Concluded from September issue, p. 628.*]

### Hyperadrenia

NOW that we have considered the various kinds of hypoadrenia, it is time to turn to the consideration of the contrary condition, hyperadrenia.

Adrenal hemorrhage may be defined as an extravasation of blood into one or both adrenals and is caused by rupture of some of their blood vessels as a result of high blood pressure. This hypercondition may be the result of toxins, toxic wastes, irritants, psychic condition and numerous other causes. When the tension becomes high, the adrenal vessels are subjected to centrifugal pressure which may exceed the resisting power of their walls.

The symptoms of impending hemorrhage in infants are, imperfect respiration following delayed or difficult delivery, purpura with or without fever, very red color, with visible throbbing of the large vessels. Post-hemorrhage symptoms are, abdominal pains, diarrhea, vomiting, followed by hypothermia, convulsions and death.

In the child, the presence of high fever and high blood pressure in the course of an infection gives good reason for a diagnosis of impending hemorrhage of the adrenals. Unless this condition is relieved shortly, we get evidence of adrenal apoplexy. The symptoms are the same as in the infant; death following in a short time.

In adults, the delicate adrenals are endangered through high tension regardless of the cause. This condition can be diagnosed by venous engorgement, venous pulse, facial congestion, and hard pulse. The sphygmomanometer tells the whole story. The onset, in adults, is severe. There are intense abdominal pains, uncontrollable vomiting, severe diarrhea, hypothermia, cold sweats, feeble pulse and feeble cardiac action, coma or convulsions followed by death.

*Treatment*: Normal saline solution injections are the most desirable remedy. By reducing the viscosity of the blood, saline solution relaxes the blood channels; by increasing its osmotic properties it facilitates the penetration of the blood into the lymph channels, thus further reducing vascular tension. It also serves to dilute the toxins and to cause diuresis.

Saline solution should, therefore, be given intravenously in emergency cases, subcutaneously in threatening cases, and per rectum in all cases where there is danger of adrenal hemorrhage (toxemias, severe infections, and such).

Amyl-nitrite, nitroglycerine, spirits of nitrous ether (for children) all tend to relieve hypertension. Some consider chloral and veratrum viride useful, but, personally, I urge caution with their use on account of their depressing action on vital functions. If hemorrhage has taken place, our chief reliance is in adrenal and pituitary preparations, as suggested under the heading of hypoadrenia.

### Adrenal Hematoma

This condition is the result of an adrenal hemorrhage. It only becomes fatal on rupture, with consequent expulsion of its contents into the peritoneal cavity. It may, however, through irritation, give rise to other grave disorders. The causes of hematoma of the suprarenals are, acute intoxication, burns, osteomyelitis, hepatic abscess, tuberculosis, atheroma of the adrenal veins, thrombosis, traumatism, and other pathologic conditions.

The usual symptoms are a sense of weight and perhaps pain. The pain is diffuse though most marked in the region of the tumor (in the right or left loin). The neuralgic pains, due to pressure, may become increasingly severe. The physical signs are, enlargement of the abdomen under the lower rib or between that rib and the iliac crest. If the hematoma is sufficiently below the rib so as to be palpable, it is found to be globular or oval, smooth and tense, though elastic. Fluctuation may be elicited. The growth may be quite sensitive to pressure.

If the hematoma becomes sufficiently large, the patient begins to fail. Pain becomes severe, and dyspnea may set in as a symptom. A severe sense of constriction

about the chest makes the diagnosis fairly simple. Then polyuria, hematuria, and even bronzing may make their appearance. In the great majority of cases, the cyst ruptures into the body cavity with fatal results.

*Treatment*: The cyst should be removed either through an abdominal or a lumbar incision. Sometimes, removal of the kidney becomes necessary.

### Hypernephroma

The symptoms of this malady are diametrically opposed to those of Addison's disease. They make their primary appearance between the first and eighth years of life. Females are much oftener affected than males. Premature development is the first sign of this form of hyperadrenia. At a very early age (4 to 10 years), the face, genitalia and pubes are covered with hair. The external genitalia become fully mature. The uterus is of the size and shape (at 4 or 5 years) of that of an adult of 20 or 25 years old. The clitoris is often large and in many cases assumes the appearance of a penis. Pseudohermaphroditism is frequently seen in hypernephroma. The body is obese; appetite and thirst are excessive, although gastric disorders are common.

As hypernephroma is due to excessive growth of adrenal tissue, the phenomena of the disorder are easily explainable. The hyperoxidation, nutrition and metabolism account for the rapid growth and the quick attainment of maturity. The first sign is often hematuria. The hemorrhage is often severe, large, worm-like clots being passed. The hyperthermia rarely exceeds 1 or 2 degrees F. Blood pressure is high. The duration is from 15 weeks to eight years.

*Treatment*: The tumor should be removed. The operation may be performed extraperitoneally through a lumbar incision. The fatty capsule should be removed with the growth.

### Cancer of the Adrenals

Sarcoma is the most frequent cancerous growth of the adrenals. Carcinomas occur, as a rule, in adults or in aged subjects. The strength of the victim wanes rapidly, the weight progressively decreases, the heart becomes weaker and more rapid. The temperature may exhibit some rise, but advanced cases always show hypothermia. The appetite is poor, and the digestive apparatus fails to function correctly. Bronzing may set in.

After some time, the tumor may be detected below the costal margin near the vertebral column. The border is smooth. Pressure symptoms, such as pain and edema, may or may not be present.

*Treatment*: Removal is the only resource, but, as a rule, this procedure is very unsatisfactory. There is great danger of fatal hemorrhage due to the friability of the tissues. Metastasis is also rapid. Some of the newer medical treatments may be tried. There is great hope entertained for their success, and, as the prognosis is so very poor by surgical methods, medical therapeutic measures are perhaps more justified in cancer of the adrenals than in malignant disease of any other organ.

### The Adrenals in Idiocy

In certain forms of idiocy, the adrenal medulla is entirely absent. Very often, in anencephalia, the adrenals are altogether missing, and the adrenals exhibit atrophy in all cases of this malady. This is also the general condition in pseudoencephalia and microencephalia. Perhaps the cortex is more often the seat of peculiarities than the medulla.

This suggests a certain relationship between the cortex and the central nervous system. The similarity of the adrenals to idiocy can be explained thus, that the secretion of the adrenals is converted into *adrenoxidase* (which is adrenal secretion together with certain albuminous bodies and oxygen) in the lungs and, as such, sustains oxidation in the nerve cells, by reaction with the myelin, which substance contains certain phosphorus-laden nucleoproteins. Therefore, absence of the adrenals inhibits the physiological processes of the nerve cells, so that growth of the neurones is arrested. Idiocy is a disease in which there is only partial devolopment of the neurones and brain. The relationship is therfore quite obvious.

If the following symptoms are present with idiocy, we may judge that at least part of the pathological condition is due to deficient activity of the adrenals as an entity. These signs are, muscular weakness, sensitiveness to cold, cold extremities, low blood pressure, weak cardiac action with a weak pulse, anorexia, constipation, emaciation, anemia, and pallor.

The following symptoms warrant such a conclusion that the adrenal cortex alone is involved: Universal alopecia, including absence of eyebrows and lashes, plus some or

all the symptoms listed under idiocy due to a gross adrenal lesion.

Stigmas of an excessive activity of the cortex are usually caused by a tumor of this portion of the gland. An early and premature development is a sign of excessive cortical tissue. Most cases are found in girls. The sexual organs become fully developed, the voice deep, the mind becomes hyperactive at a very early age.

**Amaurotic Family Idiocy**

Between the fifth and the tenth month after birth, an infant afflicted with amaurotic family idiocy will begin to show the following peculiarities: Suddenly it will cease to grow, both physically and mentally. It will become progressively weaker and symptoms of blindness will appear. The child becomes pale probably due to vascular weakness. To cap the climax of symptoms, a retrogressive mental condition becomes manifest. Periodic convulsions are common. This disease, it would appear, is caused by an accumulation of certain undetermined toxins which, because of adrenal insufficiency, are allowed to accumulate.

*Treatment*: The prognosis is almost entirely hopeless owing to our present scant knowledge of this peculiar disease. However, 2-grain doses of adrenal extract should be administered to the mother, three times daily, gradually increasing to grains 5. Intramuscular injections of a pituitary preparation might be tried in the infant. Small doses of thyroid and thymus might prove beneficial. In addition to mother's milk, the child should receive, if possible, freshly drawn cow's milk or, better still, goat's milk.

With our present lack of knowledge of this distressing malady, this treatment can hardly be called scientific, but, we must try out remedies in order to combat the symptoms. Adrenal and thyroid glands are known to exert an antitoxic action, while thymus exercises a marked influence on the phenomena of growth and development. Goat's milk seems to possess certain beneficial vitamines.

**The Adrenal System and the Functions of the Heart**

The function of the foramen thebesii is, to distribute the adrenal active principle throughout the contractile elements of the heart.

The foramen thebesii consists of small openings, the mouths of small vessels, which open on the inner aspect of the auricles. They not only empty into the auricles but into all the various vessels of the heart. The venæ thebesii are more concerned with the dynamic functions of the heart than with its nutrition. The left heart owes its functional activity to the arterial blood poured into it, while the right heart owes its functional activity mainly to the suprarenal active principle which is poured into it by way of the vena cava. The venous blood charged with adrenal secretion is forced into the thebesian channels when the auricle contracts. As the right auricle is much more richly supplied with these veins than the left, it is self-evident that a much greater supply of adrenal secretion is given to the right heart than to the left. The residue returns via the coronary system. If through insufficiency of the adrenals the right ventricle were not able to contract properly, fresh arterial blood would arrive automatically in the right side from the left side. However, as is shown by the dicrotic pulse, pulsus tardus, etc., this process is not always able to maintain equilibrium.

It has been shown by many experimenters that the nerve supply is not essential for cardiac contraction. This leads us to believe that the dynamic power of the heart arises from some chemical substance in the blood. Adrenal secretion possesses all the necessary properties of just such a substance. We are, therefore, led to believe that it is adrenal secretion that supplies the heart with its dynamic principle.

The myocardium is composed of bundles of striated fibers possessing thick lateral projections. These projections unite with similar projections of other adjacent fibers. They are cemented together and, thus, a thick network is formed. The cardiac muscle differs from all other musculature in that its fibers are only one-third the size and its striations are much less distinct. The fibers possess no sarcolemma and are therefore subject to the action of any surrounding fluids or irritants. The contractile elements are collected into groups or bundles, the center of which is a central prismatic fascicle of round fibers in which one or two nuclei and the protoplasm are imbedded. The whole structure is surrounded by flat or ribbon-like columns of muscle fibers. The protoplasm referred to contains, among other things, minute

pigment granules. All this forms a network through which it is possible for a substance to permeate with ease and thus come in contact with the bare muscle fibers. The chain of muscle bundles forms a sort of canalization, the lacunæ of Henle, through which a fluid could gain access to all parts of the myocardium. The especially large capillaries, spoken of by many authors as penetrating the myocardium, are nothing other than the thebesian channels.

Therefore, the heart muscle may be regarded as a sort of sponge, the contractile elements of which are nourished and supplied with energy by substances in the blood stream. It is quite evident that the cause of the rythmic beat of the heart lies within that organ itself and is independent of the central nervous system. This view is sustained and made positive by causing an isolated piece of myocardium to function if oxygenated, defibrinated blood is fed to it through the particular coronary vessel which supplies it.

The naked contractile elements of the heart are constantly bathed in plasma which is supplied with dextrose coming from the liver via the hepatic vein, called *granules B,* used to supply the necessary energy for the heart's contraction. These facts can be utilized to explain the physiological action of the adrenal active principle. An increase of suprarenalin augments the force of the contractions, but the heart does not dilate as promptly; hence, the slowing and increase of force of the pulse. When adrenal insufficiency occurs, the phenomena are reversed; when total inhibition is present, the vascular walls lose all their functional stimuli—the adrenal secretion, the granules B, and the oxidizing substance.

The efferent nerves of the heart incite and govern its functional activity but otherwise do not contribute to its vital processes. The nerve supply is unusually rich and includes medullated fibers from the pneumogastric and nonmedullated sympathetic fibers from the cervical ganglia. Inhibition is really caused by excessive contraction of the arterioles.

The socalled augmentors of the heart are small medullated sympathetic fibers which leave the spinal cord by the anterior roots of the second, third and fourth dorsal nerves passing to the stellate ganglion.

But precisely the same fibers are the nerve paths to the adrenals. Therefore, the augmentors increase the power of the heart contraction by increasing the activities of the adrenals.

The mechanical energy to which the heart is indebted are then of two kinds:

1. The contractile power of the adrenal secretion carried to the heart by the vena cava.
2. The continuous action of the oxidizing substance of the coronary-arterial blood upon myosinogen formed from granules B.

The mechanical energy of the left heart is supplied by:

1. The oxidizing substance carried to it by the arterial blood of the coronary system and by the pulmonary veins.
2. The additional supply of granules B and adrenal secretion which are supplied to the myocardium through the thebesian channels that connect the left heart to the right heart.

### The Adrenal Secretion in Its Relation to Respiratory Functions

Adrenal substance conveyed to the lungs with the venous blood is not only able to take up oxygen but is able to form an oxidizing substance so aptly called Adrenoxidase by Doctor Sajous. This adrenoxidase supplies the hemoglobin with oxygen. The corpuscles act as mere carriers of blood plasma at need. The bulb in the medulla oblongata does not entirely control respiration but has some part in it. One of the other main respiratory centers is the socalled Nœd vital of Flourens. The vagus acts as a true excitomotor nerve, acting on the respiratory center in a reflex manner, causing the inspiratory center to discharge. While there are several true subsidiary respiratory centers, the chief one is located in the neural lobe (posterior) of the pituitary body, consisting of three related functions, the adrenal, the vagal and the sympathetic centers, which are connected by nerve paths to the subsidiary centers in the bulb, etc., and thus govern, through the intermediary, the mechanism of respiration.

These functions are governed as follows:

The adrenal center by governing the production of adrenal secretion. The latter takes up oxygen and forms adrenoxidase, thus regulating the proportion of oxidizing substance supplied to the blood.

The vagal center provokes contraction of the muscles which dilate the larynx, the bronchi and the thorax and depresses the diaphragm. Thus, by regulating the

capacity of the lungs, they exercise a marked effect on the intake of air.

The sympathetic center by acting through the sympathetic nervous system (antagonistic to the vagus or pneumogastric) to provoke expiration causing all the muscles to relax, by constricting their arterioles. By this action, the air laden with carbon dioxide is expelled.

**The Adrenal System and the Kidneys**

The kidney has no internal secretion of its own. The phenomena attributed to kidney extracts are due to adrenal principle that the kidney extracts normally contain.

When the flow of urine is to be increased, the renal arterioles dilate because of action of vasodilator terminals of the sympathetic which reach the kidneys from the splanchnic and semilunar ganglia. The glomerular tufts being thus transversed by a greater volume of blood, the components of urine are filtered out into Bowman's capsule.

The adrenals and the kidneys are functionally united, the adrenals contributing, by their secretion, to the conversion of normal products to end-products. The latter, of course, are excreted by the kidneys with the urine. When there is any interference with the adrenal function, there is found a collection of urine end-products in the blood. Thus we can see that there is a definite relationship between the breaking up and the elimination of these products and the adrenal functions. The following relationship exists:

1. There is an increase of adrenal secretion when there is an increase of renal end-products.
2. When adrenal function diminishes, there is an increase of renal end-products in the blood.

The pituitary body contains a center which governs the functional activity of the adrenal system and of the kidneys. Any excitation of this center, by certain toxins that may occur in the blood, increases the functional activity of these organs, the adrenal and thyroid apparatuses, secondarily the kidneys and, therefore, general metabolism and renal secretion. While the adrenal system sustains metabolism, the kidneys, governed by the same center, can eliminate the waste-products formed in the course of this process.

**The Adrenal System and the Generative Glands**

The testicles have no true secretion of their own but owe their secretion to the interrenal tissue situated in them. The secretion forms organic compounds with certain albumins found in these tissues. The compound is rich in phosphorus, perhaps lecithin. Male characteristics are due to adrenal active principle wherever situated.

Removal of the ovaries reduces the oxygen intake 10 percent, and ovarian restores it to normal. The extract, moreover, enhances metabolism, increases diuresis and excretion of urea and phosphoric acid. Its physiological effects are just like the effects produced by adrenal secretion.

The corpus luteum presents all the morphological characteristics of an aggregate of chromatin cells. The secondary sex characteristics are attributable, in the female, to the ovarian interstitial cells, which correspond morphologically and chemically with those of the adrenal cortex (chromatin tissue.) However, the interstitial cells of the female are not the same structurally as the interstitial cells (Leydig) in the male. The Leydig cells, connected functionally as they are with the sperm cells, correspond with the Graafian follicles and their corpora lutea as secreting structures.

There is no true internal secretion of the ovaries; the product of the Graafian follicles and their corpora lutea and the interstitial stroma-cells being derived mainly from adrenal tissue in those cells.

Hence, to provide against the loss of female characteristics through accumulation of the secretion of the interstitial glands in the body at large (adrenalin), the products of the ovarian-adrenal rests are eliminated periodically (menstruation). This may not be the only reason for the phenomenon, but the function well serves the purpose.

Hypernephroma and in fact hyperadrenia in general, in women, tends to make them masculine. Hypernephronic females are very likely to develop some pseudo-hermaphrodic characteristics: the penis-like clitoris, the distribution of pubic hairs, the flattened breasts, etc., are some results of retained adrenal-gonadal secretion. It is because of this that loss of the testicles causes feminism in the male; while in the female the accumulation, through tumors, etc., of adrenal cells causes development of male characteristics.

Finally, when conception has taken place, all the dynamic power which adrenal secretion provides, acting as a catalyzer on

oxidation, becomes necessary for the new being and its development, for lactation, etc.; then the menstrual cycle ceases.

**Adrenal Organic Therapy**

Before going into the specific uses of adrenal preparations, it is well for us to examine the effects of this substance on the various tissues of the body.

| *Organ and Tissue* | *Action of Adrenal Preparations* |
|---|---|
| Heart: | |
| Auricles, Ventricles | Beat Slowed and Strengthened |
| Coronary Vessels | Dilation |
| Vessels: | |
| Cerebral | Direct: Constriction<br>Intravenous: Dilation |
| Tongue and salivary mucosa | Constriction |
| Pulmonary | No Action |
| Spleen | Constriction |
| Intestines | Constriction |
| Kidney | Constriction |
| Genitals | Constriction |
| Glands: | |
| Lachrymal | Secretion stimulated |
| Mucous | Secretion stimulated |
| Salivary | Secretion stimulated |
| Gastric | Not certain |
| Liver | Not certain |
| Pancreas | Secretion inhibited |
| Suprarenal | Vasoconstriction |
| Kidney | Primary inhibition followed by secretion stimulated |
| Sweat | No secretion |
| Lymph | Secretion stimulated |
| Reabsorption | Retarded |
| Metabolism: | |
| Sugar tone | Raised (Glycosuria) |
| Heat tone | Raised (Hyperthermia) |
| Oxidation | Increased |
| Nutrition | Increased |
| General | Increased |
| Involuntary muscles: | |
| Esophagus | Relaxation |
| Cardia | Relaxation |
| Gall bladder | Relaxation |
| Gall duct | Constriction |
| Intestines | Inhibition |
| Urinary Apparatus: | |
| Bladder | Relaxation |
| Genital Apparatus | |
| Uterus, fallopian tubes, vagina (virgin) | Constriction |
| tubes, vagina (pregnant), Uterus, fallopian | Strong Constriction |
| Seminal vesicles, Vas deferens | Constriction |
| External Genitals: | |
| Muscle retract, penis | Constriction |
| Autogenital muscle | Constriction |
| Tunica Dartos | Relaxation |
| Lungs: | |
| No direct effect | |

In consequence of its physiological action, the following effects are produced by adrenal extracts:

1. Universal vasoconstriction (exceptions noted above.)
2. Increase of force, diminution in rate of heart.
3. Dilation of coronary arteries.
4. Relaxation of intestinal muscles.
5. Relaxation of detrusor muscle of bladder.
6. Contraction of uterus.
7. Dilation of pupils.
8. Increased secretion of bile.
9. Diminution of pancreatic secretion.
10. Increased gastric secretion.
11. Diuresis.
12. Increased protein metabolism.
13. Increased glycolysis.

Toxic Action: When given in moderate dosage the effect of adrenalin is purely physiological but, in excess, it is a violent

poison. The first symptoms of poisoning, are great excitement, repeated vomiting and sangineous diarrhea. Later on, there is increased weakness and finally extreme prostration with complete paralysis; death following in a few hours, twenty-four at the most.

The autopsy reveals a high degree of hyperemia of all internal organs; a serous and occasionally sangineous fluid is present in the pleural, peritoneal and pericardial cavities; there are subpleural, subpericardial and epicordial ecchymoses, relaxed heart muscle, pulmonary hemorrhage and pulmonary edema. There are hemorrhagic patches elsewhere.

**Organotherapy**

The preparations most used are the glandulæ suprarenales siccæ U. S. P. and "tabloid" suprarenal gland (Burrough's Wellcome Compound.) They are best given in doses of from 2 to 4 grains (0.13 to 0.26 Gms.) Adrenal is unreliable when given orally, as it is oxidized in the stomach and intestines and rendered inert. It is absorbed from the colon. Subcutaneously, it may be given in doses of 10 to 20 minims. Its injection is painful and it is well to add 1/6 grain of procaine to it.

The use of these preparations is contraindicated in the cases of infants or of cases of organic heart diseases. When prompt action is necessary, as in shock, cardiac failure, etc., the intravenous method is the one to be used. Minims 10 to 20 in a pint to a quart of physiologic saltine solution, at 108 to 110° F., is injected. Or, minims 5 to 10 in 2 drachms of saline solution may be injected slowly in a vein in an emergency.

As mentioned, adrenal organotherapy is indicated in Addison's disease and other forms of hypoadrenia. Some of the other indications are, surgical diseases, urticaria, Graves' disease. Injection into cavities such as the vagina, rectum, urethra, is not altogether devoid of danger. If the mucosa be abraded, absorption will take place.

Shock and Collapse: Adrenalin here fulfils two prime conditions excellently, viz., it raises the blood pressure and enhances tissue oxidation; that is, it corrects two morbid processes, namely, low vascular and cardiac tension and depression of vital functions. Its use is not only for shock but for surgical heart failure, collapse from hemorrhage, asphyxia and submersion. Adrenal active principle should be injected intravenously, slowly, 5 to 10 minims in a pint of warm saline solution (180° F.). Artificial respiration is also indicated. Atropine, gr. 1/100, also aids materially as it causes the arterioles to assume their normal functional tone.

Hemorrhage: In hemorrhage from the pharyngeal, esophageal, gastric or intestinal mucous membranes, the flow may be arrested if the drug is administered per os as it can then exercise its local control. Capsules containing 5 grains should be used. In intestinal hemorrhage, it should be used with caution. Small continuous doses are indicated if the blood pressure is low. If the pressure is high or normal, nitroglycerin or the nitrites will be found better.

Toxemias: Very useful in infectious diseases as an amboceptor to the toxin. Doses are to be regulated according to the severity and depression, and to other symptoms.

Cancer: The field of adrenal usefulness in cancer is worthy of consideration. In experimental cancer in animals, adrenalin has proven of some value.

Cardiac Disorders: In capsules containing 5 grains each, adrenalin proves useful in cardiac dropsy and cardiac dyspnea. Contraindications for its use are, chronic nephritis, aortic lesion with tendencies to anginoid attacks, angina pectoris and arteriosclerosis; in fact, wherever a rise in blood pressure would prove dangerous or unwise. Otherwise, the preparations should be used according to its various physiological properties in weakness of the myocardium (Caution!) when threatened cardiovalvular adynamia exists, cardiac collapse, etc. Valvular diseases respond to digitalis better than to adrenal substance.

Respiratory Disorders: Asthma is often promptly relieved by these preparations. Paroxysms may be arrested quickly by injecting 5 to 10 drops of adrenalin chloride solution (Parke, Davis & Co.) Spraying the nasal passages with a 1:4000 solution of adrenalin chloride has been found efficacious and suppositories, grain 5 in coca butter, are useful.

A very good injection is the following:

℞ Adrenalin .....gr. 1/80
Pituitary extract .....gr. 2/3
Distilled water .....m. xv
Mix et Signa: Injection.

It is well to use benzyl benzoate as an adjuvant. This may be given as follows:

℞ Benzyl Benzoate (20%).....Oz. iv
Sigma: Drachms 1 or 2 every three hours.

In hayfever, the following ointment is much more valuable than a spray:

℞ Liq. Adrenalin Chloride (1:1000)....drm. 1
White Vaseline .....drm. 1
Adeps Lanæ Hydros .....drm. 1
Mix: Apply to nasal mucous membrane.

Addison's Disease: Here, adrenal extracts compensate for deficiency of adrenal secretion. Begin the treatment with gr. 3 of adrenal gland three times daily, after meals, and gradually increase until the temperature and blood pressure become normal, when the final dose should be maintained.

Graves' Disease: Beneficial results have been reported by the use of increasing doses of adrenal extract in exophthalmic goiter. Under the administration of the gland, the pulse rate was reduced, the protrusion of the eyeballs disappeared, the thyroid gland diminished in size, tremor and other nervous symptoms vanished and the patients were restored to health in a way not seen with any other form of treatment. However, the results have not been universally successful.

Surgical Heart Failure: Here, the active principle acts as a catalytic agent for oxidation, thus promoting the intake of oxygen and stimulating all muscles including the cardiovascular system.

The toxemias including bacterial infections, surgical septicemias, etc.: The adrenal therapy has proven of great worth, especially when collapse has intervened or has been threatening, when there is persistent low vascular tension, hypothermia and cyanosis.

Capillary Hemorrhage: When there is capillary hemorrhage, especially from the upper digestive tract, mastication of capsules of adrenalin extract or powders of the substance arrests the flow by causing active metabolism.

Asthenic Cardiac Disorders. In low heart diseases, especially when there is dilation of the right ventricle, great benefit has followed in dyspnea, cyanosis and edema by taking tablets of 1/2 to 2 grains three times daily after meals.

Asthma: To arrest paroxysms, 5 to 10 minims of a 1:1000 solution of adrenalin chloride, in a drachm of saline solution, should be injected.

To Prevent Recurrence of Serous Effusions: After the pleura, peritoneum or tunica vaginalis, etc., has been aspirated, the practice of injecting 5 to 10 minims of adrenalin is a good one. It acts by reducing the permeability of the local capillaries and by restoring circulatory equilibrium.

Neuralgia and Neuritis: If applied to cutaneous surfaces over the affected area, so as to produce ischemia of the hyperemic nerves, adrenal extracts will arrest pain. One or 2 minims of 1:1000 adrenalin-chloride solution should be applied, or some adrenalin ointment may be used instead.

### In Conclusion

Before closing my article on the adrenal gland, it is my pleasant privilege to acknowledge the assistance rendered me by those named in the following.

First, my brother, Edward William Weiler, B. S. Chem. E., who so ably wrote the introductory history. Also, the chapter devoted to the important subject of the chemistry is in part his work.

It is also my pleasure to publicly thank my dear friend, Mr. Ralph Dellivie, for the great help he rendered me while writing and correcting this paper.

By her self-sacrificing and ever willing encouragement and by her able suggestions, I owe Miss Effie Russell a debt far greater than these few words bear witness to.

Last, but not least, to my dear mother, Mrs. Bernard William Weiler, without whose inspiration this work could never have been put before the medical world, I owe thanks which I can never hope to repay.

As I set forth in the opening paragraphs of this article, the greater part of the substance is not original but merely a collection of thoughts and writings of far greater men than myself. It is then with great pleasure and gratitude that I mention the following sources:

Charles E. De M. Sajous: Internal Secretions and the Principles of Medicine. 1918.
Young: Handbook of Anatomy.
Pottenger: Symptoms of Visceral Disease. 1919.
Culbreth: Materia Medica and Pharmacology. 1917.
Gley: The Internal Secretions. 1917.
Biedl: Internal Secretory Organs. 1913.
Swale Vincent: Internal Secretions and the Ductless Glands. 1912.
Bandler: The Endocrines. 1920.
Janeway: Lecture Notes on Physiology. 1918.
Falta: The Ductless Glandular Diseases. 1916.
Cobb: The Organs of Internal Secretion. 1917.
Lorand: Old Age Deferred. 1912.
Edwin Bauer, in *Virchow's Archiv*, May 29, 1918: Untersuchungen über die Funktion der Nebenniere, Figmentbildung, und Morbus Addisoni.
MacLeod: Physiology and Biochemistry in Modern Medicine. 1920.
Burrough's Wellcome Co.: Animal Substances in Medicine.

# What Others are Doing

## TREATMENT OF INFECTIOUS DISEASES

In a thesis entitled "On Leukocytolysis" (Petrograd, 1911), Dr. Ivan I. Manoukhin showed, by direct experiments, that the organism combats infection mainly through the means of breaking up its leukocytes. The leukocytosis that is observed soon after bacterial infection, as a natural defensive provision, is followed by the breaking up of many of the leukocytes and, thereby, lytic ferments ("leukocytolysins") are elaborated into the blood plasma which exert an antibacterial action. These leukocytolysins, Metchnikoff has found, are produced by the spleen while certain other ferments, whose properties are opposed to them, namely, the antileukocytolysins, are elaborated, he claims, in the liver.

In order to demonstrate the correctness of this view, the author undertook, in 1913, certain experiments in Professor Metchnikoff's laboratory at the Pasteur Institute, in Paris. He infected monkeys and guinea pigs with human tubercle bacilli and then stimulated in them the activity of the spleen so that leukocytolysins should appear in the blood and that their activity should exercise its curative effect. The spleen was incited to special activity by radiation with small doses of Roentgen rays.

A fairly detailed report of his experiences, not only in tuberculosis but also in typhoid fever, tetanus, and other infectious diseases, is presented by Doctor Manoukhin in an article published in *The Lancet* for April 2 (p. 685). There he also discusses the technic of the x-ray treatment that he administers. Incidentally, it is of interest that rœntgenization of the spleen appears to increase the amount of alexin (complement) in the blood and also various of antibodies, such as hemolysins, agglutinins, bacteriolysins and opsonins. This was determined quantitatively by means of the complement fixation test.

Incidentally, Manoukhin discovered that it was possible by the same method, of rœntgenizing the spleen, to obtain in a brief period of time very powerful immune sera against tetanus, against typhoid, dysentery, and so forth. He prepared an antitetanus serum, containing 2,000 American units in 10 mils of serum (which is equal to the serum supplied by Parke, Davis & Co.) by immunizing horses against tetanus and following this up with rœntgenizing the spleen. Not only were the curative sera of high concentration but the time of production was shortened and the expense was lessened.

Doctor Manoukhin's work appeals through its simplicity ,and it seems to us that it may easily be elaborated into a therapeutic procedure that is applicable not only in sanatoria but also in private practice.

## TREATING APPENDICITIS MEDICINALLY

Along with others, Beverley Robinson expresses himself *(Internat. Jour. Surg.,* April, 1921) strongly in disfavor of indiscriminate operating. He believes many operations to be unnecessary and at times distinctly harmful; with judicious medicinal treatment, many patients may be brought through nicely without recourse to the knife.

But, his idea is quite out of accord with the generally accepted view of what is proper in the way of medicinal treatment. He disapproves of the ice-bag. While doubtlessly relieving pain, it at the same time retards local circulation, which is bad. Warm applications are better. Others would withhold codeine (or other opiate) when pain is so severe as to call for an anodyne, but Robinson sees no reason for withholding it; nor a dose of castor oil if the patient has been constipated up to the time of the acute attack. In lieu of this, one may give a warm flaxseed enema.

Of the opiates, he prefers codeine, gr. 1/8 to 1/4. It does not upset the stomach nor constipate.

He thinks that the pain is due at times

to colitis as much as to appendicitis; the two conditions frequently coexist.

An operation, to say the least, is hazardous, more so than most of us know. Death occurs quite frequently on the third or fourth day. Or, in the cases that recover, there may be adhesions or other sequelæ, giving more or less subsequent distress. In view of this, he declares, surgery ought to be undertaken less hurriedly.

## PSYCHOSES FROM THE DISEASED CERVIX

It has recently been drilled into us that pus pockets underneath the gums are responsible for many disease conditions affecting the general organism or remote parts. Gould it was, among others, who held eyestrain accountable for many of the troubles affecting men. Now comes Langstroth *(Med. Record,* May 21, 1921) with the dictum that an infected uterine cervix is frequently the hidden origin of the nervous and mental syndrome in women.

The endometrium of the cervix seems to be a vulnerable tissue for pyogenic bacteria. Such tissue culture, both by the direct and the swab methods, was found to produce growths, whereas the corporeal endometrium was singularly free from bacteria. This fact demands consideration all the more because the cervix is very freely supplied with blood and lymphatic vessels, into which absorption of toxic bodies can readily take place.

In practice, pronounced improvement has been observed to follow in psychoneurotic patients operated upon for removal of infected foci. A predilection for other structures, as the joints, may in some give rise to arthritis or kindred trouble, which may be benefited in the same way. Too much should not be expected; no benefit may be had in some cases, especially where fibrous changes have taken place or nerve tissue has been destroyed. Still, an examination of the cervix ought to be made when no obvious cause for existing trouble presents.

## SIX YEARS OF VACCINES

Skeptical ones and all those with a preconceived notion that vaccines, or bacterins, are fine theoretically but worthless in practice, should attend to Turner *(Med. Times,* April, 1921). His experience with these agents runs back six years and, reflecting on what he has done with them in that time, he sees them weapons of great power and precision against many human ailments.

The surgeon, he thinks, should welcome bacterins for prophylaxis against infection following the infliction of traumatic or operative wounds. The use of the proper agent is highly logical. Even at best, under the most favorable conditions, some patients are foredoomed to die. But, worse, many succumb who ought to recover. The withholding of agents that tend to increase the patient's resisting power or to establish a temporary immunity against bacterial onslaughts, thus enabling one to survive a crisis, is inexcusable, to say the least.

Attention is called to the results of immunization against typhoid fever. The author says that there should be no typhoid; carriers should be eliminated entirely from our population; and, in event of contagion, no case should last more than two weeks: all this if the appropriate bacterin were consistently used.

Finally, he points out that such agents are now to be had in handy packages at a reasonable cost.

## POTASSIUM NITRATE IN CANCER

That cancerous lesions are caused by the ingestion of too much common salt, or sodium chloride, may be quite true as affirmed by Robinson *(Therap. Leaves,* July, 1921). An excess of this salt, beyond the power of the body to utilize and to oxidize further or dispose of as waste, may well be that irritant to the cells which ends in cellular and tissue degeneration such as we have in lesions of this class, and perhaps in others too.

If so, the treatment proposed is nothing if not scientific. In accordance with a well known chemical reaction, potassium nitrate added to sodium chloride results in the formation of sodium nitrate and potassium chloride which chloride is readily appropriated by the cell.

What merit Roentgen rays have against cancer is said to be due to the fact that they act by bringing about the oxidation and removal of the sodium-chloride excess; which the cell appears incapable of accomplishing by its own efforts.

Is it not significant that cancer is never

found where the use of table salt is not in vogue but is rather shunned?

The idea is being capitalized with enterprise, and perhaps to the point where some might regard it as quackish. No matter, it seems worthy of investigation.

## PROFLAVINE IN WOUND TREATMENT

Berkeley *(Brit. Med. Jour.,* Feb. 8, 1919) was one of the first to commend proflavine for wounds; he used it in war wounds, notably those in which there was an exceedingly tender raw surface of considerable extent, the dressing of which is often acutely painful. Such wounds are typically seen in amputation stumps, either without flaps or with flaps left unsutured, and before the process of granulation has set in. In many of these cases, superficial sloughing is going on, and the immediate edges of the adjacent skin are reddish, swollen and indurated. These wounds are exquisitely sensitive, and the removal from them of an adherent dressing is an agonizing process to the patient. In many instances, these men are very ill, and their fortitude has been broken by the combined effects of shock, hemorrhage, toxic absorption and the suffering occasioned thereby.

The dressing with which such patients usually arrive is of gauze soaked in some antiseptic in watery solution. The water soon evaporates and the gauze adheres tightly to the raw surface. This disadvantage is obviated by the use of proflavine oleate.

The method adopted by Berkeley consists either in spreading a thick layer of the oleate ointment on a single thickness of white gauze and then applying it to the wound, or spreading the oleate direct onto the surface of the wound and then covering it with a single layer of gauze. This dressing does not need to be changed for several days and, on being removed, strips off from the sensitive surface without causing any pain. It is equally applicable to any large flat-surfaced wounds, such as those left after wholesale excision of the thigh or buttock muscles.

This dressing was employed continuously until granulation was complete; the process appeared to occur normally, no retardation or deficiency of formation of granulation tissue being observed. It has the advantage that it adheres and requires no bandage or pad to retain it in contact with the wound. Except for its covering of proflavine oleate gauze, the injured part can, therefore, be left fully exposed to the air under a bed cradle covered with a layer of butter muslin.

## ABDOMINAL OPERATIONS UNDER PROCAINE

Hans Finsterer, of Vienna, *(Amer. Jour. of Surg.,* July, 1921) does laparotomies under local anesthesia which most of our surgeons have scarcely considered possible. He has done 157 stomach resections for cancer without the help of ether, painlessly. In some other cases, requiring more than three hours to complete, the amount of ether given, supplementing oral anesthesia, was only 20 to 100 mils (Cc.); which is very small indeed.

Further, he has operated under local anesthesia for intestinal obstruction, peritonitis, duodenal ulcers, hemorrhages and appendicitis; has performed resection of the large intestine; and even extirpated the gall-bladder. He has done the last-named operation 104 times without an immediate death. As for appendectomies, he did 226 interval operations without any ether. When there are severe adhesions and in acute cases, however, he uses ether, usually about 20 mils (Cc.).

Procaine is his anesthetic. The opening and suturing of the anterior abdominal wall may be done painlessly with fan-shaped injections on the outer margin of the rectus, using a 0.5-percent solution. Also, the conducting nerves must be blocked at least a hand's breadth centrally from the incision. As the mesentery contains pain-conducting nerves, this also must be blocked.

Fatal lung complications are almost entirely avoided by his method. It makes some operations less hazardous for the aged.

## SACRAL ANESTHESIA

For pelvic operations, Syms *(Int. Jour. of Surg.,* June, 1921) looks upon sacral anesthesia as safe and effective. He uses it for excision of hemorrhoids by the clamp and cautery method; for operating on rectal fissure; for opening ischiorectal and prostatic abscesses, perineal section for drainage of the bladder, hydrocele and circum-

cision in the adult.

Injecting into the sacral canal is not the same as injecting into the spinal canal. The injection is made at a lower plane and outside of the spinal membranes, so that this method is devoid of disadvantages and dangers attaching to spinal anesthesia. As for infiltration anesthesia in the neighborhood of the anus, this is more or less hazardous because the region can not be surgically sterilized. Sacral anesthesia is likewise free from this drawback, says the author. But, before one attempts it, he must study carefully the anatomy of the sacrum with reference to its normal aspect and peculiarities, the guiding landmarks, and other important points.

The region anesthetized is about the area encompassed when one is seated upon a saddle. Anesthesia is complete when the anal sphincter may be dilated without flinching on the part of the person operated on. The solution employed is: 30 mils (Cc.) of sterile water containing 0.375 grains of procaine, to which is added 10 minims of a 50-percent calcium chloride solution. The last ingredient, though, is not considered essential.

## "PIANO ARM," BASED ON TUBERCULOSIS

The socalled piano arm, which is commonly considered as an occupational pain of the nature of a neurosis, many times presents great difficulty in tracing the pain to its underlying cause. Consequently, every instance of this annoying affection, in which a satisfactory etiology was established, will be of assistance. It goes without saying that there may be several, and various, causes that stand in relation to such a neurosis. However, it is well to keep in mind all the possibilities.

In the *Kentucky Medical Journal* (Aug. page 526), John J. Moren relates that he was consulted by a young man, cursed with a typical "musical temperament," who had been playing the piano for ten or twelve years and who complained of pain in his left arm. It had been explained, by several physicians, as an occupational pain; and Dr. Moren concurred in this view.

The patient's wife insisted on an x-ray examination, with the result that a cavity was discovered in the left lung, probably an old process which had healed and, in appearance, was typically tuberculous. There was also an active tuberculous process in the right lung. The man had no elevation of temperature, no shortness of breath, and no significant symptoms so far as the neurological examination was concerned. Auscultation was negative.

Moren explains the pain in the arm as due, probably, to adhesions that had formed in the healed focus in the left lung. It would be interesting to determine whether tuberculin treatment, producing fairly decided focal reactions, would relieve the neurosis.

## SIGNIFICANCE OF THE LUETIN REACTION

Robert A. Kilduffe and Matthew E. Soller (*Arch Diag.*, Apr.) present the following summary and conclusions based upon a survey of the literature of the last ten years with regard to the luetin reaction for the diagnosis of syphilis.

1. The luetin reaction is without value and will give false and misleading results when iodide medication has been utilized within four weeks preceding or four weeks after the test. The test should, therefore, not be made when the patient is under medication.

2. The luetin test has its greatest value in the tertiary and hereditary forms of syphilis in which the Wsasermann test is also of great value.

3. The luetin test can not replace the Wassermann test in the diagnosis of syphilis.

4. A negative luetin test is of greater value from a diagnostic standpoint than a positive reaction.

5. A negative luetin test is of greater diagnostic value than a negative Wassermann test.

6. The proper interpretation of the reaction requires a considerable degree of skill and experience.

7. Definite statements as to the specificity of the reaction can not be made until further and extensive investigations have been made.

8. A negative reaction must be kept under observation, in doubtful cases, for at least three weeks in order to rule out a possible delayed positive.

9. The luetin test, when properly performed, checked and controlled, can be

looked upon as corroboratory and presumptive evidence of syphilis, but should always be checked by the Wassermann test.

## THE VALUE OF VACCINE THERAPY VERSUS TONSILLECTOMY IN SYSTEMIC DISEASES OF TONSILLAR ORIGIN

Harold Hays, Arthur Palmer and Thomas S. Winslow (*Medical Record,* Feb. 19, 1921) find that systemic disease is often of tonsillar origin even when the tonsils are small and show little evidence of disease.

Cultures from the tonsils should be taken in all cases of systemic disease.

Cultures taken from the tonsils, preferably from the supratonsillar fossa, showing any form of streptococcus, should be considered prima-facie evidence of tonsillar disease sufficient for their removal, if associated with systemic disease.

## THE TOXICITY AND TRYPANOCIDAL ACTIVITY OF SODIUM ARSPHENAMIN

Jay Frank Schamberg, John A. Kolmer, and George W. Raiziss (*J. A. M. A.*, Vol. 76, No. 26, June 25, 1921) declare that, in parasitic disease in which specific remedies are applied to destroy the microorganism, the value of the drug is determined by the chemotherapeutic index, that is to say, the relation of the curative dose to the maximum tolerated dose. The authors have studied sodium arsphenamin and compared it with arsphenamin and neoarsphenamin. In this article, which is the third of a series on the subject, they give tables showing the toxicity and trypanocidal activity of sodium arsphenamin and also a table indicating the therapeutic indexes of the three drugs.

In summarizing, the following facts are emphasized:

1. The highest tolerated dose of sodium arsphenamin for white rats by intravenous injection was found to be from 212 to 215 mg. per kilogram of weight. The average tolerated dose of arsphenamin was 105 mg., and of neoarsphenamin, 200 mg. per kilogram.

2. The smallest trypanocidal doses of sodium arsphenamin varied from 16 to 24 mg. per kilogram of weight; the smallest trypanocidal dose of arsphenamin was 5 mg. and of neoarsphenamin, 9 mg. per kilogram.

3. The therapeutic dose (dosis curativa) of sodium arsphenamin was from eight to thirteen times less than the highest tolerated dose (dosis tolerata) which expresses the therapeutic index of this compound. The therapeutic dose of arsphenamin was 21 times less than the tolerated dose, and the therapeutic dose of neoarsphenamin was 22 times less.

4. Therefore, while sodium arsphenamin possesses the low toxicity of neoarsphenamin, it is much inferior to both arsphenamin and neoarsphenamin in trypanocidal or curative activity.

5. The true gage of a remedy is expressed by its chemotherapeutic index, i. e., the relation of the curative to the toxic doses.

## HEMORRHAGE OF THE LUNG

The value of intravenous injections of calcium chloride in hemorrhage of the lung is emphasized by W. Neumann. (*Münch. med. Woch.*, Nov. 5, 1920, p. 1290). He injects a 10-percent solution, and prefers the intravenous route to administration by the mouth, not only because the disagreeable taste is avoided but because he thinks the effect is better. From 5 to 10 mils (Cc.) of this solution, injected from two to five times a day into the ulnar vein, brings the hemorrhage to a standstill within 24 hours in most cases. The tendency to hemoptysis is quickly overcome if the patient is allowed to get up for increasing periods so long as there is no fever.—[*The Prescriber,* July 1921.]

## A SYPHILITIC MANIFESTATION IN THE NOSE

Harold M. Hays (*J. A. M. A.*, Vol. 76, No. 23, June 4, 1921) discusses the problem of syphilitic involvement of the nasal passages.

The engorged mucous membranes, covering the turbinates and the nasal septum, if such mucous membrane is not distinctly polypoid, will invariably shrink under the application of a 1-percent cocaine solution, to which is added a third part of a 1:1000 solution of epinephrin chlorid. If the mucous membranes do not shrink perceptibly under the application of such a solution, there is in all probability a syphilitic infiltration of the mucosa. The nasal mucosa is first sprayed with the solution, after which pledgets of cotton immersed in the medicament are inserted into the nose. These are removed in from five to ten minutes. If the mucosa still obstructs the nose, it is evident that there is some pathologic

condition of this membrane which will not allow it to shrink; probably a syphilitic infiltration.

The author reported two cases. His concluding comments were:

A Wassermann test should be made in all cases of nasal obstruction in which the obstruction is due to a thickened mucous membrane which will not shrink under the application of cocaine and epinephrin.

## CONTROLLING THE SPREAD OF SPUTUM

Wallace A. Manheimer (*Med. Rec.*, 1916, June 3, p. 997) finds that the discharges from the mouth are responsible for almost as many diseases as are contracted from all other sources put together. Tubercle bacilli transmitted in wet saliva are far more virulent than when dried and blown in the air. Wet or fresh sputum, when we consider the frequency with which it is spread about, represents the most dangerous material discharged by human beings. The pneumococcus, the diphtheria bacillus, the germs of measles, scarlet fever, smallpox, whooping cough, epidemic meningitis, mumps, influenza, common colds, and others are more frequently transmitted through fresh sputum than in any other way. A recent case of syphilis, contracted through counting paper money with fingers wetted with saliva, emphasizes the caution which should be observed from this source of infection.

## SYPHILIS IN PREGNANCY

*The American Journal of Obstetrics and Gynecology* (Vol. 1, No. 7, April, 1921) calls attention to an important phase of antivenereal prophylaxis:

Now that the Wassermann test has been accepted as conclusive means of diagnosis, every case of pregnancy should have a routine serological examination, even when no suspicious symptoms are present. This might be regarded as a prophylactic measure. Gonorrheal ophthalmia is combated by a routine instillation into the eyes of every newborn child and in instances failure to do so is punishable. The prophylaxis of diphtheria is another recent development. It is said that at least 40 percent of syphilitic women present no objective symptoms nor are they aware of their condition. This accounts for the widespread character of the disease and its innocent propagation. Hereditary syphilis is one of the most important factors responsible for many chronic diseases and the obstetricians must consider themselves responsible to a certain degree. The recent work of J. Whitridge Williams and others opens a field for broad study. If a study of a series of consecutive cases shows positive Wassermann reactions in four or five per cent, it is probable that the distribution is as extensive as is usually assumed. A more extensive study of this subject will do much to reduce the incidence of this disease.

## NERVE INJURIES DUE TO ERRORS IN TECHNIC IN MAKING INTRAVENOUS ARSPHENAMIN INJECTIONS

According to Dean Lewis (*J. A. M. A.*, Vol. 76, No. 25, June 18, 1921), accidents following the intravenous injection of arsphenamin, although uncommon, are very serious when they do occur. The author reports two cases in which the solutions of arsphenamin were injected into the nerve or the sheath surrounding it, severely damaging the nerve. Such cases emphasize the need to exercise extreme care in making injections. Pain radiating into the fingers when the first few drops of the solution are injected should be a warning that the needle is not in the vein and that the solution is being injected directly into a nerve or into the tissue surrounding it. Arsphenamin injected into or about a nerve may have a marked destructive action, causing extensive degeneration of neuraxes and the development of large amounts of scar tissue. The densely adherent scar which follows sloughing of the skin, if such occurs, may seriously interfere with or render unsatisfactory a nerve suture.

## STUDIES ON HOOKWORM INFECTION

The latest issue (No. 14, Feb. 1, 1921) of the "Monographs of the Rockefeller Institute for Medical Research" reports upon studies on hookworm infection in Brazil, containing a first paper by S. T. Darling, M. D., and W. G. Smillie, M. D. Since hookworm infection is a very serious problem in the southern states of the Union, we quote, in the following, the general conclusions and summary of the authors. Physicians who are immediately interested

in the problem may secure copies of the entire report by writing to the Rockefeller Institute for Medical Research, in New York City.

1. The degree of hookworm infection in rural Brazil is very high, with an average of 136.1 worms per case in the various parts of Brazil that have been studied. These records include individuals from almost every state. Almost no individual over 8 years of age in rural Brazil is free from infection with hookworms.

2. The prevailing worm is *Necator americanus*, although *Ankylostoma duodenale* has been found in every district studied. The infection with *Ankylostoma* is very light but is increasing in places that have a changing population and much immigration.

3. The degree of infection varies directly with the proximity of the individual to the polluted soil.

*Problems of General Interest in Relation of Improved Methods of Hookworm Treatment.*—(1) The value of the microscope in routine treatment of hookworm disease in the field is brought out. The microscope is of doubtful value in the preliminary diagnosis of hookworm disease. It does not yield an absolute index of the presence or absence of infection, but in special conditions it can be used to weed out those cases which have few hookworms. A few cases with heavy hookworm infection may be missed. The microscope is of little value as an index of cure. An individual in a heavily infected community (with an average of 200 worms each), who has received two routine treatments with chenopodium, still harbors an average of about six worms each. Sixty percent of the community are entirely freed from worms. Since it is a mere matter of chance whether or not the microscope examination picks out an individual infected with six hookworms or even twice six hookworms, and since the presence of six worms is of no material importance to the individual, the futility of giving tertiary or quarternary treatments to these cases is apparent. The time and effort required could be expended to much better advantage in prophylaxis and educational propaganda.

2. The routine chenopodium treatments by the hookworm post nurse in places of moderate or even heavy infection (average of 100 to 200 hookworms per case) is very efficacious, removing more than 95 percent of the worms harbored. In very heavily infected areas, with an average of 250 hookworms or more per case, a third chenopodium treatment is advisable. Where infection is very light, two treatments, or even one are not urgently necessary.

3. Beta naphthol in 6-Gm. doses given daily for 3 successive days is very efficient in the treatment of hookworm disease, removing 96.4 percent of the harbored worms. Its routine use in the field is not recommended because it is less efficient than two treatments of 1½ mil of chenopodium in divided dosage, it is more difficult and expensive to administer, it does not remove *Ascaris* satisfactorily, and there is greater danger of serious intoxication.

4. The method preference to be used in administering chenopodium will depend upon the conditions under which the work is to be carried out.

*The Preliminary Purge.*—The preliminary purge on the evening before treatment does not add to the efficiency of chenopodium treatment in routine field work, where chenopodium is given in a 1½ mil dose divided into two equal parts and administered 2 hours apart, followed in 1½ to 2 hours by a final purge.

*The Divided Dose.*—A single dose of 2 mil of chenopodium followed in 2 hours by a purge is more efficient and less toxic than 1½ mil divided into two equal doses, and given 2 hours apart, the last capsule to be followed in 2 hours by a purge. This conclusion applies only where a preliminary purge is given the evening before treatment.

When no preliminary purge is given, just the contrary occurs; that is, a 2 mil dose of chenopodium given all at one time without a preliminary purge and followed in 2 hours by a purge, is a less efficient method than when the method of dividing 1½ mil of chenopodium without the preliminary purge is used.

Five different combinations of chenopodium administration have been tested and all have been found quite satisfactory. They are tabulated below in the order of their relative efficiency.

*Relative Efficiency of Chenopodium Administration.*—Method 1. Undivided 2 mil dose followed in 2 hours by a saline purge. A preliminary purge was used.

Method 2. 1½ mil divided into three equal doses, and given 1 hour apart, the last capsule to be followed in 2 hours by a purge. A preliminary purge was given.

Method 3. 1½ mil divided into two doses of 0.75 mil and given 2 hours apart, the last to be followed in 2 hours by a purge. No preliminary purge was given.

Method 4. 2 mil undivided dose followed in 2 hours by a purge. No preliminary purge was given.

Method 5. 1½ mil divided into two doses of 0.75 mil each and given 2 hours apart to be followed in 2 hours by a purge. A preliminary purge was given.

Since Method 1 is slightly more efficient than any of the others, it would appear to be the method of preference, and can be applied under ideal hospital or dispensary conditions. It requires the administration of a preliminary purge which is an important item of additional expenses in field treatment. The same argument applies to Method 2. This method is even more difficult and expensive to administer than No. 1.

The method of choice for field treatment, therefore, is No. 3, for, by this method, a large number of worms can be removed with economy of time to the nurses.

The toxic symptoms produced by the five methods are about equal, though there are always slightly more toxic manifestations when a preliminary purge is given.

There is little to add concerning the toxicity of chenopodium except in regard to the maximum dose. 3 mil of chenopodium are the maximum dose for adults and should never be given in routine field treatment; 1½ mil is the maximum dose for children between 8 and 12 years and should never be given in routine field treatment.

## EVERY REMEDY BUT THE RIGHT ONE

Half amusing, half pathetic are lamentations of the conventional sort over the ravages of congenital syphilis, and so is the long and sober but absolutely unoriginal, consideration given to eliminating this curse from the world. The writer, for instance, has just been reading in a current copy of the *International Journal of Public Health* (Geneva) a paper by a Japanese physician on this subject. From the literary angle, his paper is commendable. He cites forceful statistics. He paints a despairing picture of innocent victims suffering from an infection passed on to them by their fathers or mothers. And he concludes with a well elaborated scheme for at least materially lessening these woes. But, in fact, he gives us every remedy but the right one, the really effective one. Here are his recommendations:

1.—To institute propaganda showing the personal and social ravages of congenital syphilis.

2.—To disseminate the facts among midwives.

3. To give antisyphilitic treatment to all pregnant women showing a positive Wassermann reaction.

4.—To examine the blood of every new-born baby when the mother is known to be syphilitic.

5.—To examine the blood of the husband when the wife is known to be syphilitic, and conversely.

6.—These precautions can be carried out without undue opposition, he thinks. Of course, the application of the Wassermann test to every pregnant woman is a slur on her person and family, but physicians may apologize for this on the ground that it is now common practice to instill silver nitrate solution in the eyes of new-born babies as a precaution against gonorrhea—he says.

Why this beating about the bush? How long are physicians going to engage in such sophistry as the foregoing? When shall we be courageous enough to speak the truth and to urge on the public the use of the one really effective remedy against these ills that we have?

The thing we must do is, to prevent the syphilitics from propagating and thus perpetuating their disease. They must not be parents. They must not even be permitted to marry. Some of the states have eugenic laws calculated to prevent this, but they are not strictly enforced. Without restraint, syphilitics go on marrying and defiling the race, to say nothing of burdening tax-payers with the responsibility of housing and feeding the almost countless incapacitated victims of this transmitted infection.

The high level of intelligence that prompts the possessor to plead for legal restraint of wanton propagation has not been attained by the masses, that is obvious. Till it is, congenital evils will surely continue to impose themselves directly or indirectly upon us.

# Let's Talk it Over

## The Problem of the Tonsil

**Special Article**

A FEW years ago, Dr. J. N. Mackenzie startled physicians with his forcible paper on "The Massacre of the Tonsil" (*Maryland Med. Jour.*, June, 1912) in which he condemned severely the tendency to indiscriminate sacrifice of this structure on the bare suspicion that it was to be held responsible for about everything under the sun for which a patent reason could not otherwise be shown to exist.

Admitting at the outset of his philippic that, in the present state of our knowledge, the functions of the tonsils are unknown, he asserted definitely that the tonsil is not, a lymphatic gland, as is generally taught and believed. This is evident from its embryological development since it does not develop as a lymphatic gland from a plexus of preexisting lymph vessels in the mesothelium, but as an ingrowth from endothelium from the second branchial pouch and, therefore, in its origin must be classed with the thymus and the thyroid, the former originating from the third, the latter from the fourth, while the parathyroid takes its origin from the third and fourth branchial pouches, all by inbudding of the endothelial lining of the primitive pharynx. In agreement with this mode of origin, it has been shown by Gordon Wilson, of Chicago, that the tonsil secretes or excretes a substance into the pharynx.

This and other evidence goes to show that the tonsil plays a role of importance in early life, in addition to its production of lymphocytes, which necessitates a close relation to the pharynx. This role may be of infinite value to the infant in its earliest days of life, while, as he grows through childhood into manhood, he is able to dispense with it. Since the first organ to manufacture or store leukocytes in embryonic life is the thymus gland, and in view of the origin of the tonsil from the branchial pouch, it is conceivable, as Jacobi suggests, that the tonsil may assume the role of the thymus after birth or when the latter gland ceases to functionate.

Mackenzie was emphatic in his assertion that the role of the tonsils as portals of infection has been greatly exaggerated, like all new doctrines in medicine. "To make them responsible for the long Iliad of woes which has been laid to their account is, to remove the whole question from its legitimate place in the region of cold clinical fact into the atmosphere of fads and fancies." It is to be considered, he claims, that the tonsil is not even built anatomically as a gateway of infection; its blood supply is scant and there is almost no communication with the lymphatic system. The tonsillar crypts "are lined with mucous membranes having the ordinary function of other mucous membranes as far as known. They are distinctly separated from the very active absorptive and bacteriolytic structures of the fauces, pharynx and nose. Their position is a segregated one."

Mackenzie is convinced that in a large number of cases the tonsils will take care of themselves, if they are enlarged. Even if they should remain large, they may safely be left in place, provided they are giving no trouble, for, as their growth does not go on at the same rate as the growth of the rest of the pharynx, the time soon comes when they become inconspicuous in the fully developed fauces. Moreover, "a large tonsil does not mean necessarily a diseased tonsil, nor does a small tonsil always indicate a healthy organ. Tonsils apparently diseased may consist of normal tissue and, on the other hand, perfectly normal looking glands may be found pathological on microscopical examination. The tonsil may be greatly enlarged, may extend far down into the

pharynx or be buried deeply in the palatine arcade and yet not interfere with the well-being of the individual. * * * If such tonsils are not interrupting function, they had best be left alone, for they are doing no harm. The change in anatomical relations after operation is often so great that function is crippled more after their complete removal than it was before. Moreover, it occasionally happens that the resurrection of a 'buried' tonsil is followed by the burial of the patient."

**Tonsillotomy May Be Sufficient**

While the author is emphatically opposed to the wanton and indiscriminate sacrifice of the tonsil, which he likens to the craze of gynecologists, some years ago, when ovaries were removed on the slightest provocation and without any provocation at all, to the detriment of the patients, he maintains nevertheless that under certain definite conditions surgical treatment of the tonsils becomes necessary and that then it should be undertaken promptly. As to the mode of operation, he points out that complete enucleation is a capital operation and should be done only in the hospital. But, since complete enucleation is not always practical, it is of interest to learn that, according to his conviction, removal complete enough for all practical purposes and virtually free from danger and with equal or better results can be done with the guillotine. Especially in patients who earn their livelihood with their voice, the operation of tonsillectomy should be undertaken with a great deal of care since the tonsils are phonatory organs and play an important part in the mechanism of speech and song. They influence the action of the surrounding muscles and modify the resonance of the mouth. In tonsillectomy, no one can foretell the amount and character of change in the anatomical relations of the parts, no matter how skillful the surgeon is or how skillfully the operation is performed. The adhesions and contractions left after this operation, even in the best hands, lead often to deplorable changes in the quality and to ruin of the singing voice.

**Effects of Tonsil Operations in Singers**

In this connection, a study of the effects of tonsil operations in singers is of interest, in which Dr. Irving W. Voorhees presents an analysis of 5000 cases (*N. Y. Jour. of Med.* March 1917). Unfortunately, inquiries addressed to 500 throat specialists and to 500 vocal teachers failed to receive answers sufficiently definite to make possible decided conclusions, since the results of the operation, as they influenced the singing voice, were not reported in sufficient detail or with the required accuracy to be of service statistically. However, the author concludes that:

1.—An analysis of 5,000 tonsil operations in singers shows that in the hands of skilled operators there need be no special fear of bad results.

2.—It is the consensus of opinion that bad results are most often due to cicatricial contractions occurring from careless dissection or from neglected after-treatment.

3.—Pain in the tonsillar region, neck, and larynx is probably due to section of some of the larger branches of the glossopharyngeal nerve (Justus Matthews).

4.—Loss of singing voice occurs very rarely after tonsillectomy, if at all. Impaired voice is possible, but most cases show an increased range of from one-half to a full tone.

5.—Loss of singing voice after tonsillectomy might be due to a nerve lesion, but is probably due to adhesions and cicatricial formation in the fauces.

6.—The singer's problem is a very special one, and no laryngologist should undertake to operate on these patients unless he has some knowledge of the art of singing.

7.—At operation, the greatest care and skill must be exercised in securing a clean, free dissection. Injury to the tissues surrounding the tonsil may prove disastrous.

8.—Postoperative care is of special importance. The patient should be seen daily until full healing ensues.

**Functional Drawbacks of Tonsillectomy**

In all probability, Mackenzie's warning resulted in a more conservative attitude on the part of operators with respect to removal of the tonsillar structures, and physicians likewise recommended destructive operations on the tonsils less than had been the case. This attitude was strengthened by the realization that the appearance of tonsillectomized throats, as observed from time to time, often indicated anything but ideal anatomic results, and in certain instances pointed to unmistakable impairment of the depressor palatal muscles. Cases were observed in which the speaking voice had, following tonsillectomy, been seriously and permanently impaired. Dr. G. Hudson Makuen pointed out cases of deformity of serious importance occurring even at the hands of the most skillful operators, where the objection of faulty technic could not be entertained. Indeed, it is possible in individual instances, by studying the end re-

sults of operations known to have been done with great care and delicacy as to technic, that one may witness a most surprising resulting picture of throat deformity.

### The Functions of the Tonsils

Considerations of this kind caused Drs. E. L. Kenyon and W. T. Kradwell to undertake a study of the physicomechanical function of the faucial tonsils, the results of which they describe in the *Annals of Otology, Rhinology and Laryngology* for December, 1916. Their investigations showed forcibly that:

1.—The tonsil serves as an absolutely necessary factor in providing a channel for the action of the palatoglossus muscle.

2.—The function of the tonsil with reference to the palatopharyngeus is to afford support and protection of great importance to its normality of action.

3.—Tonsillectomy serves to destroy not merely a possible lymphatic function of the tonsil, but also to either disturb or destroy an important physicomechanic function, one which is capable of being clearly understood.

4.—More or less impairment of action of the depressor palatal muscles must occur in practically all cases following tonsillectomy, regardless of the delicacy of operative technic or the particular form of operative procedure adopted; but delicacy of procedure and method of operation are not, of course, to be considered unimportant.

5.—To consider the present operation of tonsillectomy as a final settlement of the operative approach to the tonsil, is premature and erroneous. The whole tonsil question requires further anatomic, pathologic and operative study, in order, if possible to readjust the operative approach to the organ to the new knowledge which is accumulating.

### The Focal-Infection Problem

Shortly after the publication of Mackenzie's paper, and long before the one just mentioned, the possible danger resulting from the tonsils as the seat of "focal infection" had been pointed out by the important studies of Frank Billings and E. C. Rosenow. Particularly the recognition of the fact that tonsillar infection and inflammation often stand in direct relation to acute attacks of arthritis caused a far-spread sacrifice of these structures to be resumed, and in many minds tonsillectomy formed the first treatment of articular rheumatism which was believed to be fully justified and not to be neglected without risk and the charge of negligence. Unfortunately, it was only in a comparatively small proportion of cases that the operation resulted in the surprising improvement in the condition of arthritic damage that had been expected. In all too many instances, the articular disease progressed and, sometimes, even was apparently aggravated by the tonsillar removal.

It cannot be claimed that the frequent failures of tonsillectomy to relieve arthritic symptoms disprove the importance of tonsillar infection. Quite recently, Walter B. Metcalf of Chicago (*Jour. Ophthal. & Oto-Laryng.* March, 1917) showed definitely, by experimental and clinical observations, at least for infection with the tubercle bacillus, that tonsillar infections are continued to the cervical glands through the lymphatic channels; and, from here, it is of course only a question of further dissemination through the lymph and blood channels whether such an infection is to be carried to other places in the organism.

The problem dealing with the importance of the tonsil for the first localization and then the dissemination of bacterial infection, and further for the feasibility of amputation and for its effect upon the voice is not settled by any manner of means. If Mackenzie claims that the tonsil is not a lymphatic gland and if it is suggested by his argument that this organ does not occupy so important a position in the localization and dissemination of bacteria, the investigations of Metchnikoff, Billings, Rosenow, and others tend to controvert this position and to substantiate the suspicion with which infected tonsils have been viewed in the past with reference to infectious processes. Further, it may be concluded from the results of Voorhees that, with a proper technic and suitable postoperative care, tonsillectomy is not necessarily followed by untoward results or by impairment of the vocal faculties. This question receives an entirely different aspect in view in the light of the study of Kenyon and Kradwell, also those of Makuen which make the recovery from tonsillectomy and the retention or improvement of a good singing voice almost a matter of accident.

### Study of 1,000 Tonsillectomies

Without entering into this last question, and considering only the importance of the tonsils as a focus of infection and as a fruitful source for the dissemination of bacteria, and finally discussing the value and advisability of tonsillectomy, a very important study of 1,000 cases of tonsil-

lectomy, done at the Johns Hopkins Hospital in the course of 5 years, is presented by Drs. Crowe, Watkins and Rothholz, and published in the *Bulletin of the Johns Hopkins Hospital* for January, 1917, and reviewed at some detail in the *Journal of the American Medical Association* for March 17, of that year (p. 851). It is to be pointed out that these 1,000 operations were not done in the dispensary but were performed under the rigorous routine of the surgical ward; moreover, the cases were followed up in order to learn the subsequent history with respect to disorders supposed to be secondary to a chronic focus of infection in the upper air passages.

As a result of the experience now collated, Dr. Crowe and his associates have reached certain tentative conclusions which may be helpful in the contemplation of tonsillectomy. They assert that the operation should never be undertaken during the acute stage of tonsillar inflammation, as a cerebral abscess may result. Diabetes is as much a contraindication for tonsillectomy as it may be for any operation necessitating general anesthesia. Tonsillectomy is rarely of benefit in the chronic deforming types of arthritis, in many cases probably doing more harm than good. The Baltimore surgeons are further convinced that nothing is to be gained from a tonsillectomy during the acute stage of chorea, acute rheumatic fever or endocarditis. Their experience shows that, even after the nose and throat have been put in normal condition by operative measures, these diseases may recur. In any event, the tonsils are not the only portals of entry for the pathogenic organisms and their removal in an interval free from symptoms can be justified only on the plea of preventing further cardiac lesions which may result from subsequent acute tonsillitis. The frequency of heart and joint defects in chorea may justify such a measure.

In infectious arthritis in which the periarticular changes predominate, and perhaps also in myalgia, the promise of helpfulness from tonsillectomy is greater. In the early stages of glomerulonephritis, it may also be worthy of some consideration. The tonsils are the most common site of the chronic infections which give rise to a hyperplasia of the deep cervical lymph glands near the angle of the jaw. The enlargement of the glands will rarely subside after treatment of carious teeth and alveolar abscesses alone. It seems advisable, therefore, under such conditions to consider the removal of the tonsils in cases of persistent palpable glands at the angle of the jaw, particularly if the patient has some general systemic disorder. The majority of the enlargements are apparently due to a chronic pyogenic infection which will subside after tonsillectomy. Others are often due to persistent tubercle bacilli.

Obviously the advisability of a tonsillectomy in any individual case depends on the malady and the general condition of the patient. As the Baltimore investigators express it, tonsillectomy alone will not cure tuberculous cervical adenitis, arthritis or glomerular nephritis. It is necessary in such cases to apply general hygienic measures as well, so as to increase the patient's resistance. If the tonsils are the primary focus of infection, their removal in suitable instances may materially alter the prognosis by preventing a constant reinfection. Skilful surgery is indispensable. A partial occlusion of the crypts, resulting from an incomplete tonsillectomy, as sometimes happens, may actually aggravate the symptoms of infection by producing a mechanically made focus of trouble. Despite the many uncertainties and unsolved problems which still exist, however, Crowe and his collaborators state that their records "tend to support the evidence of Billings and others in regard to the importance of focal infections in many of the general disorders seen by the internist, the pediatrist, and the general surgeon."

**Care in Selection of Cases**

Despite this fact, the selection of cases for tonsillectomy always will have to be undertaken with great care. In the case of tuberculous tonsils, especially, calamitous results often have followed the extirpation of these little organs, even meningeal dissemination of the tubercle bacillus having followed and with fatal results. Moreover, tuberculosis investigators are all but unanimous in asserting that the tonsils perform a useful function as a first line of defense and that children should not be deprived of this aid for the establishment of an efficient immunity against the disease. F. M. Pottenger, for one, is very emphatic on that point.

**Are the Tonsils Endocrine Organs?**

Quite recently, the problem of the tonsil has entered into a new phase, one that

bids fair to justify the caution of those who have raised their voices in warning against the uncritical removal of these organs; although on different grounds from those cited by earlier authors. In recent years, the tonsils have come under the notice of those investigators who are interested in the study of endocrine functions and some physiologists have claimed that the tonsils are more than lymph structures, that they actually possess an internal secretion. *The Journal of Organotherapy* (1921, No. 3.) cites Ott and Scott, without giving a reference, to the effect that the administration of tonsil extract, in animals, was followed for a short time by a great increase in the secretion of urine. There was also a considerable increase in the volume of the kidneys for some minutes. These workers inferred that the tonsil infusion they used acted directly upon the renal cells in promoting diuresis. They found that it was more powerfully diuretic than infundibulum, parathyroid or the pineal gland. In fact, in their opinion, it was a more powerful diuretic than any extract of the endocrine glands. Hence, they concluded that the tonsils probably have an internal secretion.

The writer in *Organotherapy* cites Farmachidis and Vattuone, two Italian clinicians, whose researches confirmed those of Ott and Scott. Previous researches by them having demonstrated that tonsil extract was able to arrest the fatal toxic action of epinephrin and that it also had a glycolytic action *in vitro* and when injected into animals, they were encouraged to try it in cases of diabetes in man. They had tried liver extract, thyroid, suprarenal, intestinal juice and duodenal mucosa without great success and finally had the opportunity to try tonsil extract in three cases of grave diabetes. They used it intravenously in daily doses of 2 to 20 mils and found a temporary primary increase in the glycosuria, followed by a rapid decrease. There was also a very marked improvement in the other symptoms with increase in weight and muscular power; in one of these cases, acetonuria disappeared after two months' treatment.

While these observations have not received further confirmation, as yet, they are sufficient to cause one to view the tonsils, if not with respect, at least with consideration. Moreover, that the only good tonsils are by no means those preserved in alcohol or formaldehyde (to paraphrase an old-time saying anent the only good Indian), appears clearly from a remarkably interesting article on "Endocrinology and its Practical Application," contributed to the *New York Medical Journal* for April 20, 1921, by D. M. Kaplan. In this article, which affords unusually instructive reading, Kaplan refers to the tonsils as an appanage of the pituitotropic individual. Joseph Fraenkel had repeatedly pointed out the functional connection between the pituitary gland and the tonsils. Whether it is consistent with clinical experience or not, Kaplan is definite in stating that the tonsils have something to do with the pituitary gland. Being approached with much less difficulty than the latter, they are assailed on far slighter provocation and with entire disregard of the gland originally diseased. Add to this, Kaplan continues, other considerations, such as the comparative innocuousness of the procedure, the relative physiological unimportance of the tonsils, reported successes of cures in well chosen instances, and one's mind is definitely settled that the tonsils' chief purpose is, to cause trouble, and that, therefore, they must be removed. Now, while there are instances of supreme urgency when, to leave the tonsils *in situ*, would be worse than folly, it must not be forgotten that, regardless of our ignorance of the functions of this adenoid structure, we must attach at least that importance to it and treat it with that consideration which is due to anything with which the Supreme Wisdom found it necessary to endow us. We should at least give it the consideration due to an excretory, if not an endocrine, organ, and leave it in when life and health are not directly jeopardized by its retention within the body. Kaplan is of the belief that the tonsil secretes a necessary principle, although it has not been extracted and subjected to the tests in vogue for such provings, nor does extirpation furnish results immediate and proximal enough to assign to it the importance of an endocrine gland. In another part of the same communication, Kaplan says, and this may form a fitting conclusion to this partial review of the problem under consideration: "We must respect not only the finished product called man, but treat gently and handle tenderly every part which has been placed in him by a wisdom superior to ours. We can not afford to re-

move an organ because its function is unknown to us, and because its removal is free from immediate disaster, but must resort to such drastic measures only when it is unquestionably an obstacle to health and a menace to life."

In our own opinion, while the tonsil is under serious indictment for grave offenses against the health and even the life of numerous persons, the prosecution has not made good its plea that *"tonsilla delenda est"* (the tonsil must be destroyed!). Pending further investigations, which have received an impetus through endocrinologic researches, it will be the part of wisdom to "spare the tonsils" in every case in which their irremediable illness or degeneration has not been fully proved.

H. J. Achard.

Chicago, Ill.

## "SPARING THE TONSILS"

I am not a throat man nor even a surgeon, just an everyday humdrum general practitioner. Don't know much about medicine, not much experience; in fact, a dub.

In my innocence and ignorance, I once asked a throat man (laryngologists, I believe they are called), "What are tonsils good for?" and he answered "For throat men." Permit me to add, also for the sanitary pail.

In my little experience, in those who develop infectious endocarditis or suppurating appendicitis, the trouble is not due to having the tonsils taken out but to the fact that they were not extirpated soon enough. Abnormal hypertrophied tonsils, also buried tonsils, in my opinion, have been the cause of more trouble than any other of the useless organs in our body today. Particularly have I found it so in children. Rheumatism, chorea, appendicitis, gastritis, stomatitis, and often deafness are directly chargeable to diseased tonsils.

In a few cases where the tonsils appeared quite normal and the patient having anemia, general weakness, irritability, etc., I advised tonsillectomy and found the glands full of pus. I never hesitate in advising the removal of tonsils.

A. Maxwell Lightstone.

Montreal, Canada.

[We are very glad that you wrote to us about this matter and, indeed, we are glad that you have voiced an opinion that has many opponents just now. In that way, that is to say, by free discussion, we may ultimately arrive at the truth.

In the course of years of observation and investigation, it has been impressed upon us very strongly that the tonsils are "good for throat men" only when they are bad tonsils. The good little tonsils do important work and should be left undisturbed, untouched, to carry on their function.

Very careful investigations in the course of the last twenty years seem to have demonstrated conclusively that the tonsils act as the first line defense against bacterial injury. The fact that, very often, they suffer and become damaged in the struggle does not disprove the claim that, primarily, they are useful. We do not dream of asserting that those soldiers who got injured in battle were useless from the start and should be killed offhand. Similarly, just as long as the tonsils can carry out their function, as long as they do not harbor within their tissue pus foci, so long they should be left undisturbed.

Incidentally, many times we have found it possible to restore the usefulness of the tonsils, especially in children, by a course of the Syrup of Ferrous Iodide, U. S. P., which, in our opinion, is by all odds the best remedy for the purpose.

However, if careful topical cleaning out, suitable hygienic, dietetic and drug treatment fail to accomplish the purpose, if they are unsuccessful in restoring a set of tonsils to functioning capacity, then we agree with you that they should come out.

We can not agree with you in classing the tonsils with the "useless organs of our body." Are there any? True, some organs are rudimentary and seem to have no definite function, no *raison d'être*. Yet, even the appendix vermiformis has found its apologists and protectors. As for the tonsils, they certainly can not be designated as useless in early childhood where, on the contrary, their work is highly important. Compare, in this respect, the article on tonsils appearing in this issue of Clinical Medicine, on page 713.—Ed.]

## POSTERS ILLUSTRATE CHINESE HEALTH CAMPAIGN

"Driving it in" with pictures are the means which the Yale In China Hospitals


"Come Quickly to Vaccination!" reads this poster. It is a warning to the Chinese against smallpox, its pictures showing that the one who is vaccinated only has a few scars on his arm, whereas the one who avoids vaccination has many scars. The poster was issued by the Yale In China Hospital Unit and distributed by the American Red Cross. Dates for the Fifth Red Cross Roll Call are Nov. 11-24.

are using to conduct a health campaign throughout the Empire. And, because the rural Chinese are a simple people, the posters explain step by step the cause of and preventions for, the most prevalent diseases.

"Come Quickly to Vaccination!" reads one poster. "Those who are vaccinated have only a few scars on the arm, but those who are not vaccinated have many scars on the face and arms."


This poster, designed by the Yale in China Hospital and distributed by the American Red Cross, was used to teach the Chinese the value of hygienic living versus patent medicine. The escalators represent two roads to health, the right way and the wrong way. Dates for the Fifth Roll Call of the Red Cross will be Nov. 11-24.

But the prize poster, with a text which has moved many Americans to mirth, illustrates the right and wrong roads to health. This poster, "Hygiene Versus Patent Medicines," attracted so much attention that, at the request of Miss Nina Gage, American Red Cross nurse with the Yale in China Hospital, a Chinese translator worded the text in English.

"Anybody desired to have a good health," the poster reads now, "the way is indeed

simple. The people have a good health, but in thought the common people regard it as difficult as a way direct to heaven. Whereas they wanted to get assistance of nutritive medicine and appreciated much with untrained doctors, charmed as deceived by the trance of them, absolutely unknown until the door of death. Likewise they, at least, spoiled their bodies and lost plenty of money. Finally nothing to be acquired but make the evil merchants satisfied in willing and rendered their pockets in full. This will induce the people who, knowing their faults, will laughing at you, how willing you are.

"Escaped the right way which you should followed, but rather enter into the trance without perceived, good for men and women, old and children. Suitable in the four seasons of spring, summer, autumn and winter. Money only as being the trademark. When body and mind are comfortable you will free at all the disease. Anything you meet will yield to your adaptation and bend to your ideas. Taken interest in mind and reading; play with flowers and plants; have happy emotion; exclude melancholia; encourage good spirits; laziness forbidden. Get out of bed in the early morning and don't get to bed too late at night. Teeth brushed and wash cleaned. Keep the bowels open. Deep respiration. Sleep in fresh air. Take much rest. Straight posture of body. Diligent in exercise, masticating gradually and carefully. Moderate food."

Doctors will appreciate the descriptive names of the patent medicines which line the wrong road to health and against which the poster offers a warning. These medicines are "dragon pills, benevolent powder, red powder, comforting pills, strengthening spirits, blaud pills,, natural blood, blood spirits, clean pills, general solution, daily happiness protect the kidney pills, sea waves medicine, dreaming syrup, resurrection pills, black spirit pills, spray spirits and turn blind to normal prescription."

While the posters are used by the Yale in China Hospital for their health campaign, the American Red Cross cooperated by distributing them. Dates for the Fifth Roll Call of the American Red Cross are November 11-24. Promotion of public health is part of the Red Cross program.

The readers of CLINICAL MEDICINE are urged to renew their membership in the American Red Cross.

## IN MEMORIAM: DR. ABBOTT AND DR. BUTLER

While on vacation, I read in CLINICAL MEDICINE the many eloquent tributes from brilliant physicians, surgeons, and laymen rich in scholarship, gentlemen who exhausted their remarkable vocabulary in a creditable effort to do justice to the memory of Doctors Abbott and Butler. Now, that we have read the encomiums of those gifted masters of virile English, may not a patriotic representative of The Abbott Laboratories give modest expression to his opinion, an opinion clothed in homely simplicity and garnered after many years of close observation of the innumerable and intricate angles of human nature and apply the result to the unlimited credit of Doctors Abbott and Butler? For five years, I enjoyed a commercial association with the former and for twenty-five years a social association with the latter. The nucleus of this observation affords confirmation of the exalted tributes to each, and attests a democracy as broad as humanity.

Each had tasted the tang of the bitter cup and, therefore, neither "Dallied with his thoughts, nor wasted his strength on trifles; like the lazy sea, that plays with the pebbles on its beach but under the inspiration of the wind might lift great navies on its outstretched palms, and toss them into the air as playthings." To the contrary, each ventured out of the beaten paths and hewed a clearing through the massive forests of obstacles, thus affording an opportunity of sowing seed which was scattered not only at the right time but in the right field. The life of each was broad in its scope; fearless in its sense of right; strong in its purposes; enthusiastic in its faith in the good; freighted with generous, noble impulses, while an inspiration was really a demonstration. For, with them, to think was to act; and, consequently, each was a martyr to his convictions. Upon such sacrifices the gods themselves throw incense, rendering the homage grand with imperial purple.

There is solace in the beautiful lines from the versatile and pathetic pen of James Whitcomb Riley, the Hoosier Poet, with whom I was also acquainted.

"I can not say,
And I will not say

That he is dead.
He is just away.
With a cheery smile
And a wave of the hand
He has wandered into an unknown land
And left us dreaming how very fair
It needs must be, since he lingers there,
And you, oh you, who the wildest yearn
For the old-time step and the glad return—
Think of him faring on, as dear
In the love of There, as the love of here.
Think of him still as the same, I say.
He is not dead—he is just away."

"DEACON" ROACH.

Chicago, Ill.

## A MAGNIFICENT QUARTET

Taylor, Waugh, Butler, Abbott.
What a magnificent quartet!
They wrought faithfully.
They adorned the profession of medicine.
They were the friends of humanity.
They sleep peacefully.

John Freeman Neal.

Plainview, Texas.

It was with the deepest regret that I noted the death of Doctor Abbott.

Reading the different letters in the August CLINIC, made me return to years past, in 1896, when I was a boy medical student. My father, Dr. J. M. Fry, was taking the THE ALKALOIDAL CLINIC. I remember, it was a small journal and had Doctor Abbott's picture on the front cover.

I commenced to read it then and, when I graduated in 1900, at the age of 21, I started practice along the lines that Doctor Abbott advocated.

Twenty years ago, most of the doctors here would laugh when I stood up in the medical society and said that Abbott and Waugh were living 20 years ahead of their day; yet, time has proved it that way.

All my professional life, I have used the Abbott goods and intend to do so as long as I practice. I have "The Practice of Medicine" (Waugh-Abbott) and "Positive Therapeutics (Waugh-Abbott); also "A Digest of Positive Therapeutics" by Dr. Abbott. Money can not buy these books from me—I shall always treasure them.

I have a large office practice in chronic diseases that I never could have had if it hadn't been from the teaching of Dr. Abbott and his splendid associates.

Long may The Abbott Laboratories survive and prosper as a living monument to the life work of this good man.

Please say to the family of Dr. Abbott that, while I never met them or the doctor, I feel like I have lost a friend at his passing and, that, if I do live away off in Texas, I deeply sympathize with them in their sorrow.

Best wishes for The Abbott Laboratories and THE AMERICAN JOURNAL OF CLINICAL MEDICINE.

H. T. FRY.

Wills Point, Texas.

It was with surprise and sincere regret that I read in the *Medical Record* of the death of my friend, Dr. W. C. Abbott, on July 4th.

Having known him for many years as a big hearted, optimistic and untiring worker in all things tending to the uplift of humanity and the relief of suffering, the notice of his death comes to me as a great shock, for I somehow felt that a man doing so much for the good of his fellow-man would be spared long on earth. Apart from all that he did for the cause of medicine and better therapeutics and as a voluminous and lucid author, in my judgment his greatest and best work was his lifelong preaching and practice of a broad brotherhood of mankind, universal optimism, and an extended hand to the poor fellow doubting and struggling with a gloomy outlook. In this respect alone, Dr. Abbott was a blessing to the world.

My profound sympathy is extended to all of you who mourn for him; but, when such men as he are called away, we should feel that all is well. I feel very lonely when I think that dear Dr. Waugh and big hearted Abbott have both gone over. However, it will be a comfort to know that they are *living* and that we will meet beyond just as surely as we ever met on earth.

C. A. Bryce.

Richmond, Va.

## DOC GREGG AND DOCTOR McKOIN

Dear CLINICAL MEDICINE:

I don't know whether it is customary or not for a Marine Engineer to get on your subscription list, but, since I came here as Industrial Director, U. S. B. E., last September, I have read through old numbers of your worthy publication, and am greatly interested.

The nurse in charge here at that time,

Mrs. F. L. Webb, was a subscriber, and, when she departed for the east, on April 30, last, she left a number of your magazines in the Bureau pharmacy. Frequently, reading matter is at a premium in these latitudes. So, one day last May, for want of something to pass a gloomy and wet afternoon, I went delving into the prints of the nurse's library. Since then, I've been a reader of back numbers of CLINICAL MEDICINE with a vengeance, whenever time afforded.

To be sure, there are many and diverse passages between covers, month in and month out, that I do not understand. They are beyond me and I make no attempt to mentally digest them. For instance, I don't get much information out of Doctor Robin's "Hydromineral Treatment of Diabetes", nor "The Pancreatic Theory", nor "The Etiologic Treatment of Sciatica" except, maybe, in a farflung, general way. And this is as it should be. There are too many things for any one man to know all. It is likely that the good Doctor, on the other hand, wouldn't find much of interest in "Roper's Treatise on the Thrust", or "The Destruction of Condenser Tubes by Galvanic Action", or from reading anything about the claim that air bubbles cause pitting on the interior of marine steel boilers. Yet, we are taking care of lives on two rather distantly separated trails. However, with all of the big words, technical expressions and, to me, unpronounceable terminology, I find many interesting articles and a deal of good reading, therefore my $3.00 money order enclosed for CLINICAL MEDICINE.

I like the "Let's Talk It Over", the "Condensed Queries Answered" and the "Just Among Friends" departments. The short stories told by the older Doctors of their early experiences appeal to me, and not a few of the articles are humorous.

Although I'm only a "physician and surgeon to sick engines, ailing boilers and their auxiliaries," yet the following may be of interest to those who heal our physical and mental ills and cheer us on our way—the good Doctors.

Thirty-three years ago, a young fellow and I owned and operated a wee bit of a steamer on a small stream in Southwestern Washington. The valleys of the river and its tributaries were heavily timbered and almost virgin. In this region, about ten by twenty miles, there were scarcely three hundred souls, made up of homesteaders, squatters on unsurveyed lands and loggers. There was a sprinkling of women, probably fifty, all told, and a few children. No village hovered in the shadows of the big trees in this section of wild country, but, at the head of tidewater, and where a country road (trail, rather) terminated, a post-office, road-house, trading post and saloon held down unplatted and unclaimed soil a fair pistod shot's distance from each other.

Four miles from the river, on the aforesaid jungle trail, dwelt an old settler by the name of Gregg. He was the Valley's only medical man, albeit he could hardly write his own name nor read better than a bright lad in the first grade. Also, he had no diploma. Let me describe old "Doc Gregg": Height, about five feet eleven; shouldered like a logging road bull; muscled as a grizzly bear, and as hairy. Weight near 250 pounds. No fat. But, he had a fine, open face and his heart was as big as his great chest could carry.

I think now, as I thought then, that the medical profession wouldn't have suffered any with "Doc." as a real Doctor, educated, trained and refined. He had the touch, the sympathy, the cheery smile and the big understanding, and he was ever willing and untiring. He didn't use tobacco and whisky, nor did he court the goddess of luck at the gambling tables. But, he could swear, and he did. He didn't swear to be profane, nor to show off, but to make vivid his limited vocabulary. Whew! Such crackling and vibrating rolls of blasphemy! He was clean in person and neat in his little backwoods cabin where he lived alone. His dress, of course, was as rough as the region; heavy blue flannel overshirt, riveted, brown overalls tucked into calked logging boots and his gray head covered with a sombrero. I can see him now, as I often saw him years ago, trudging in the muds and rains of winter, through the wet brush, perspiring, steaming, his hat in one hand; in the other, the inevitable carpet bag of instruments, drugs and bandages.

What little he knew of medicine, he gained by keeping his eyes and ears open in the field hospitals of the Civil War. He was a Maine soldier, and, early in the strife, stopped a truculent ounce of Rebel lead with his left thigh. He didn't speedily recover from this, but he could hobble

around some and he became a sort of all 'round helper in the hospitals.

In the valley country, there was little sickness. The air was wholesome and carried the odor of spruce needles; the water was pure and plentiful and the climate damp but agreeably warm. However, the logging camps supplied plenty of cuts, bruises, broken bones—and deaths, and there was an occasional gun shot wound to fix.

"Doc. Gregg" was getting along fairly well, as were the valley people, when Doctor McKoin blew in unannounced. Just at this time, we steamed Doc. Gregg to the bedside of his most serious case.

Now, a word about Doctor McKoin: He was a young fellow, a graduate of an Eastern college; hospital practice in San Francisco and a little general practice in a small lumber town on the California coast. But, he liked whisky. He had an idea, somehow, that if he got into the woods—far enough—Old Jordan and kindred liquids wouldn't be reachable, and he'd sail straight. Doctor McKoin meant well. He was a fine man, quick, snappy, confident, bright and agreeable; the latter even when pretty well soused.

Gregg's bad case was a boy of 17 or 18. Climbing up the bank of a slough out of a canoe, he trailed his 45-70 rifle behind him by the muzzle. The hammer caught, pulled half up, slipped free and the gun went off. The heavy bullet entered the boy's right groin and came out near the neck on the left shoulder. The lad should have toppled over, dead. But he didn't. He walked a quarter of a mile to his home, where an older sister and his widowed mother lived, and crawled into bed. We were going up stream at the time of the accident and, in three hours, we had Doc. at the house. I went in with him to see the young fellow, as I knew and liked him well. He was dressed as he was when shot and lay uncovered on a hard bed, stretched out straight and flat on his back. His forehead was wet with sweat, his face had the appearance of one who is becoming sea-sick.

Doc. had his clothes off within a few seconds and examined the wound. Where the bullet had entered, there was considerable powder burn and some shreds of cloth. The lower wound hadn't bled enought to more than merely stain the undergarments. The shoulder wound had bled freely, but had ceased before Doc. arrived.

"How do you feel, my boy?" inquired Doc., after feeling pulse and taking temperature.

"O, just like throwing up—a little. Outside of that I'm all right, I guess. Tell me straight, Doc., am I going to weather it?"

"Yep. If we can keep this hole (the groin wound) open, you'll pull out tiptop. You bet."

Afterward Doc. took me aside and said: "I can't understand this at all. Hasn't the boy anything inside of him? His heart is strong and about normal, and he's got no temperature. I'm up a stump." And in low tones the profanity welled up and overflowed.

I remarked about Doctor McKoin, who was then at a saw-mill village a number of miles to the West'ard, down river.

"A real M. D., is he?" asked Doc., anxiously.

"Yes," I answered. "He came up from 'Frisco on a sailing vessel. He's going to locate at The Landing. You'll have competition, Doc."

"Get him! Go now!! You can have him here by daylight. This is one hell of an affair and it needs brains. Get out of here and pat that engine on the back hefty, see?"

I moved. We got Doctor McKoin out of bed and, in a blanket of fog and driving mist, churned ahead, getting every revolution out of the engine that a wide throttle, full link and a simmering safety valve would allow. Doctor McKoin was striding up the puncheon road to the house, by lantern light, 90 minutes ahead of the time Doc. Gregg thought we could make it in.

It was decided that a hospital was the place for the boy. It meant weary miles of travel by steamer, by stage and, again, by steamer to reach such an institution. But, the attempt was made. Both, Doc. and Doctor rode with us to the stage line; then they held the cot on their knees over seven miles of mountain road; then they accompanied the wounded one on the last leg of the journey, 20 miles by steamer on rough water, to the hospital.

We waited on the little boat for their return, next day. As we moved out into the channel, Doc. came down in the engine room. "I've turned my practice over

to Doctor McKoin," he said, soberly. "The people are entitled to more than I can give them. It's sure their due, you know. The Doctor is up to date. He has new ways, more knowledge and is better fitted. I'll grub stumps out on the ranch now while I'm resting up."

Well, blood poison finally pushed the lad across the dark divide, but he held on tenaciously for six long weeks after reaching the hospital.

When the panic of 1893-94 drifted in, vast changes took place. Mills closed down, logging camps went out of business and many settlers moved out. Steamboating ceased to be profitable on a small scale; so, I hearkened to the call of the sea.

I haven't seen Doctor McKoin since. But, in 1914, while my vessel was unloading cargo in San Francisco, I met old Doc. Gregg on the street. He was still hale and hearty, although he walked with a slight stoop—a sort of bending forward from the hips. We talked of many things, and of the long ago, of course. He told me:

"Doctor McKoin wasn't cut out for jungle work. He was more for city practice. He couldn't stand the roughing it like I could. The mud and rain and the long walks through the wet brush got the better of him and, about two years after you left the valley, he took down with congestion of the lungs. It was a tough siege, and I didn't think he was going to pull through. I nursed him for two months in my cabin out on South Fork. When he did get on his pins, he was weak and he had lost interest, seemingly, in everything. At last, he got to throwing the red-eye into himself at The Landing, and his little, but paying, practice went to the four winds. He had saved some money, and I sold the ranch and timber for a goodly sum. So, when I saw he wouldn't last long hanging around old Felby's grog mill, I bundled him up, and we went to Arizona, prospecting. It saved him. We've a little shack in the horned-toad country, and the Doctor has a practice that is putting him on his feet again. Also, his health's improving immensely. I'm in the city on a little pension business, but am going back in a day or so. We're great tillicums, Bill, and he'd get awfully lonesome if I didn't return soon."

I hope they, the Doctor and Doc., are still living. There was a world of good in them, in the pair of them. One, bright, alert, educated, and refined, represented the sun flecks on the green leaves of our great western forests. The other, crude, strong, tireless, the tumbling, foamy streams of the hills. Together they could do what it would require a superman to accomplish alone.

Will A. Barrows.

Hydaburg, Alaska.

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[Mr. Barrows' story of the long ago somehow touches one in a tender spot. Can't you see "Doc. Gregg"—a little uncouth, perhaps, not versed in the latest acquisitions of medical science; in fact, being totally devoid of any scientific attainment. But, yet, he was the master of many in his practice of the medical *art*, and he was the true physician in his great love of mankind and his constant desire to help those who needed help. Unlike many other amateur healers, Doc. Gregg had a keen sense of his limitations. And, then, his tender care of Doctor McKoin. An epic might be written around the few paragraphs of his story to Mr. Barrows.

As for Mr. Barrows, our "colleague in the other faculty" (as an old professor of ours used to express himself), we cordially welcome him among the lay-readers of CLINICAL MEDICINE. There are a few of these, and, among them, bright and brainy men. We recall with pleasure that Jack London subscribed for CLINICAL MEDICINE for several years before his death. Again, welcome in our midst, Mr. Barrows. If you have any other stories like your first one, pass them along.—ED.]

## LOCATION DESIRED

Dr. A. L. Romain, Beirne, Ark., would like to locate in town of five or ten thousand in Louisiana, if possible. Thirty years' experience. One year in France during the World War. Kindly furnish detailed information if possible.

## A CASE OF BOILS

I have just had an interesting case of general infection that may prove equally interesting to others of your readers.

Mr. G., a young man of 26, came to me with a group of boils scattered over the body; and open, pustulating sores on the right leg. The leg was swollen and the

glands in the groin enlarged, painful. Walking was possible only with a decided limp. The patient stated that this condition had existed for two months, gradually growing worse. The history of the patient was negative in so far as specific disease was concerned and the invasion commenced after harvesting corn.

I diagnosed, naturally, an infection and gave him echinacoid, 1/2-grain three times daily, with a supply of 1/2-percent chlorazene solution; directing that all pustular points be kept saturated with it. He reported in one week, much improved, all sores in a healthy condition, most of them entirely healed. The swelling of glands on the leg had entirely subsided, while the lameness had disappeared and the patient was on the road to complete recovery.

Now, in the second week, this is complete.

W. T. THACKERAY.

Fowlerton, Texas.

## "CANCER WEEK"

The American Society for the Control of Cancer announces a seven-days' campaign to be designated as "Cancer Week" and to continue from October 30 to November 5. The purpose of this movement is, to reach as many persons as possible in the United States and Canada with the vital message of cancer control. Committees have been established in all parts of these countries; lecture bureaus have been formed, made up of interesting and authoritative speakers.

While various other campaigns directed to the control and prevention of disease must be conceded equal importance for the welfare of mankind (such as, for instance, the antituberculosis campaign and that directed against venereal diseases), it must be admitted that probably no preventive-medicine campaign is of greater vital interest to all classes of people, nor one that gives promise of more hope. While in the last two decades, especially, the frequency of cancer disease has increased to a somewhat alarming extent, it is consoling and significant that the death rate from this disease has been arrested. That is to say, since 1916, it has remained virtually stationary with only minor fluctuations. This is the most encouraging thing that has happened since the American Society for the Control of Cancer was organized, in 1913, and it justifies the belief that united effort by all cooperating agencies will not only prevent a further increase in the death rate from cancer disease but that it will effect a continuous decrease.

Cancer is very naturally in the foreground of medical investigations and occupies numerous research workers as well as all practicing physicians greatly. It is not only that the disease is so terrible in its manifestations, but the fact of its growing frequency carries an important lesson in that it signifies serious errors in living, probably in eating, although not exclusively so. It goes without saying that physicians, first and foremost, should interest themselves closely in every movement that endeavors to discover the actual cause or causes of malignant disease and to elaborate means for the removal of such etiologic factors.

During "Cancer Week," it is intended to publish as much information as is available and as much instruction as can be deduced from it, this being disseminated not only in printed articles but also through spoken words, in lectures and addresses. Meetings for that purpose will be arranged by the state chairmen of the Society with whom the local committees will cooperate. Physicians who desire further information on this matter can secure it by addressing the American Society for the Control of Cancer, 25 W. 45th St., New York City.

## "CANCER HOUSES"—A CAUTION

Referring to your review of Dr. Lapthorn Smith's article on the infectiousness of cancer, (Aug. issue, page 551) allow me to offer a few words of caution which ought to have some value because they do not in any sense represent personal deductions or opinions. The analogies of cancer to the infectious granulomata are obvious but the deduction that cancer is infectious in an analogous sense is opposed by various authorities and by a very general professional experience. While a very practical distinction must be drawn between the terms infectious and contagious, it is true in a broad sense that a contagious disease is infectious and that an infectious disease is contagious, unless some special factor, mainly concerned with the implantation of a microorganism or the requirement of some special phase of its development, prevents what is ordinarily termed contagion from securing a successful implantation. In

passing, attention may be called to the paradox that contagion typically denotes so ready a development after implantation that actual contact is not necessary.

Gueillot's collection of 23 cases of cancer of the penis, among men whose wives had uterine cancer, is significant, but in which direction? In exactly the same direction as if some one, after an equally careful study, had been able to collect 23 cases of gonorrhea in the male after exposure to gonorrhea in the female.

Some years ago, a study of "cancer houses" was made, applying to a city with which the writer was familiar. At first sight, the evidence in favor of infection from fomites seemed extremely strong. But, on more careful examination, it was plain that the negative cancer districts were those newly developed, comprising one-family houses, mainly occupied by young married couples, while the "cancer houses" were in the older parts of the city, in many cases occupied by two or more families, often being rooming or boarding houses or actual tenements, containing a higher number of persons per building than the average, with a frequent change of inmates. In consequence, by the mere law of chance, more persons developing cancer would have occupied the (supposedly) "cancer houses" within a conceivable period of incubation (to use the term somewhat loosely) than the relatively cancer-free districts. Moreover, while the "cancer houses" were in no sense free from occupancy by children and young adults, they were the very ones most liable to occupancy by persons of the ages at which cancer is most frequent.

So far as I have observed and have been able to criticise statistics of "cancer houses" in any city, the same general observation applies. It is, of course, perfectly conceivable, concerning any theory of cancer, that infection or geologic, dietetic or climatic conditions might determine a "cancer district;" but the fallacies of some medical articles making such a claim are very apparent. Certainly, for France, or any comparable country, a high incidence of cancer for a district, or "certain houses or blocks of houses" should be regarded as indicative of infection or of any other cause of an essentially local nature only after somewhat sceptic scrutiny. It is no uncommon observation that houses and blocks of houses in Paris have been densely populated for one or two centuries, while in other cities and even in quite small villages, three or four centuries of occupation are not uncommon. It is equally true for any country and for sociologic reasons that are obvious, on a little reflection that, generally speaking, the older the building, the more numerous the persons that it houses even for a small unit of time (say, five years) and the more likely it is to house persons of cancer age.

Before drawing any conclusions as to the infectiousness of cancer (or as to any other conceivable direct dependence upon a house or district) statistics should be presented of sections of a city or industrial or other villages, of approximately the same date and method of development, and the statistics should include a study of the number of persons of cancer age. Cancer is of such frequency as compared with demonstrated infectious diseases, that the law of chance would show an extremely irregular occupancy of various houses by persons of cancer age and in whom cancer actually develops, either while residing in or after moving from any particular house. But, if cancer is really infectious and dependent on fomites or if it can be ascribed to any other factor of domicile (e.g., water supply, plumbing, ventilation, access of sunlight, heating, and the like) careful statistics with due regard to age and incidence would ultimately determine the question, or rather would establish an a priori argument.

It should be stated that the possible local conditions suggested are purely illustrative. It is not the intention of the writer to suggest that any one of them has anything to do with the development of cancer. Still, in our ignorance of the question, any line of investigation may be considered justifiable.

A. L. Benedict.

Buffalo, N. Y.

## THE AMERICAN PUBLIC HEALTH ASSOCIATION

The American Public Health Association announces four phases of its semi-centennial celebrations to be held in New York City, November 8 to 18, 1921:

1—*The Scientific Sessions* will be held November 14 to 18. There will be pro-

grams of the following sections: Laboratory, Vital Statistics, Public Health Administration, Sanitary Engineering, Industrial Hygiene, Food and Drugs. There will also be special programs on Child Hygiene and Health Education and Publicity.

2—*Health Institute,* November 8 to 12. During the week preceding the convention proper, there will be organized demonstrations of the various types of public health activity in New York and environs: Health Department bureaus, laboratories, health centers, clinics, hospitals, and so on.

The purpose will be, to show health functions in actual operation, especially those which may be duplicated in other cities. In one sense, the Health Institute may be considered as a school of instruction in practical health administration.

3—*Dr. Stephen Smith,* the founder and first president of the Association, who is now in his 99th year, will be the guest of honor at a banquet to celebrate his approaching centennial and the semi-centennial of the Association.

4—*A Historical Jubilee Volume,* "Fifty Years of Public Health," will be published about October 1. There will be articles by seventeen authors, relating to the accomplishments and present status of each of the important branches of public health. While concentrating upon the public health of the last fifty years, the book will describe the earlier beginnings of public health in an introductory way and may, therefore, be considered a general history of public health from the earliest days to the present. Detailed announcements, programs, and information concerning special railroad rates will appear in the *American Journal of Public Health* and the *News Letter* of the Association from time to time or may be had upon addressing the Association at 370 Seventh Avenue, New York City.

## THE AMERICAN DIETETIC ASSOCIATION

The fourth annual meeting of the American Dietetic Association will be held in Chicago, October 24th, 25th and 26th, at the Hotel La Salle. All the meetings will be held in the Convention Hall on the 19th floor, the exhibits, both commercial and non-commercial, being in the Ball Room on the same floor. In the reception hall connecting the two rooms, the registration and information desks will be found. This arrangement is most satisfactory, as everything will be accessible and convenient for members.

*Transportation.*—A reduction of one and one-half fare on the certificate plan will be given to all members attending the meeting, and this arrangement will apply from the following territories: Central Passenger Association Territory, Southwestern Passenger Association Territory, Trunk Line Association Territory, Western Passenger Association Territory, Canadian Passenger Association Territory.

*Hotel Accommodations.*—The headquarters hotel is most desirably situated in the central part of the city. It is convenient to most of the railroad stations, the shopping districts, and many points of interest. Situated as it is on the corner of Madison and La Salle Streets, cars going to all parts of the city may be taken at the door. The Elevated is only one block away. A list of points of interest will be furnished. Accommodations may be had at other hotels within walking distance.

*Exhibits.*—The commercial exhibit will be especially good this year, as equipment and labor saving devices are to be especially emphasized. This will give members who are planning new kitchens or dining rooms an opportunity to see all types of equipment and decide which is best for their needs. The non-commercial exhibit is to consist of charts, bulletins, health-posters, and all forms used in the business management of dietary departments.

*Program.*—The morning and afternoon sessions will be taken up with section meetings and round-table discussions. The speakers for the evening meetings will talk upon subjects of interest to all. Some of the general topics to be covered are:

The Sphere of the Dietitian, Prof. C. P. Howard, Iowa State University.

Human Engineering, Robert Wolf.

Professional Spirit, Miss Harriet Vittum, Northwestern University Settlement House.

Other papers of interest are:

The Newer Ideas on the Dietetic Management of Diabetes and Their Practical Working Out in the Hospital, Dr. R. T. Woodyatt, Assistant Professor of Medicine, University of Chicago.

The Dietary Needs of a Children's Hospital, Dr. A. L. Daniels, Iowa State Child Welfare Association, University of Iowa.

The Hospital Dietitian, Miss Marion Peterson, Swedish Hospital, Minneapolis.

Papers on the Dietary Customs of Various Nationalities by Miss Bessie Lee, Visiting Housekeeper, Detroit; Mrs. Mary Schapiro, United Hebrew Charities of New York; Miss Fairfax Proudfit, University of Tennessee, Out-Patient Department, and Miss Reba Reed, Association for Improving the Conditions of the Poor, New York City.

Round-table discussions on Activities in Dietotherapy, Laboratory Research and Clinical Application.

Cooperation in Public Health Movement

from the Medical Standpoint, Miss Blanche Joseph, Michael Reese Hospital, Chicago.

From the Nurse's Standpoint—Speaker to be announced.

From the Social Worker's Standpoint, Miss Florence Nesbit, United Charities of Chicago.

Anna E. Boller,
Chairman. Publicity Committee.

## NARCOTIC-DRUG LAW ENFORCEMENT IN NEW YORK CITY

Officials connected with the narcotic squad are quoted in the press as making certain statements in extenuation of the sudden death of Otto Thompson, an opiate addict, who fell dead at Police Headquarters after his arrest for possession of narcotics.

One of these statements is, that "drug-cure records show no instance of a man dying of drug removal."

According to some statements coming from "experts" of the squad, his death is attributed by them to exposure to heat.

Neither statement is convincing to those who are familiar with addiction and its literature and record.

As to his dying of heat, the fact is, that he was deprived of his drug and died. It is pretty hard to get around this sequence of events without some real medical proof of actual scientific value.

As to "drug-cure records" showing no instance of a man dying of drug removal: it is possible that such statistics and records may intentionally or ignorantly cover up a good deal more than deaths from drug removal. The Legislative Investigation, under the last Republican state administration, Whitney Investigation, advised an investigation of the "drug cures" and institutions, public and private. That was one of the things the recently defunct Department of Drug Control was supposed to do and one of the purposes for which it was created. It overlooked this important function in the activities upon which its actual administration finally centered after Senator Whitney's influence was removed from it.

Statements based upon "drug-cure records," which may need considerable investigation themselves, are not conclusive in the light of the amount of authoritative literature on the matter of death resulting from "drug removal."

The scientific and other records and the literature on addiction to opiates, in the matter of death resulting from withdrawal of opiates, is more convincing.

As to showing instances of "a man dying because of drug removal"—there is so much mention and discussion of it in the literature, that its acceptance ought to be axiomatic with anybody at all familiar with the subject. Practically every writer of any importance in this subject refers to it.

That it seems to have escaped the attention of the "experts" of the New York City Board of Health and Police Departments, is something for them to explain. It is common knowledge elsewhere.

Merely to quote from the three widest and best-known modern authorities and writers on the subject of narcotics and narcotic drug addiction gives some idea of available information: Dr. Alexander Lambert in Osler's "System of Medicine," page 215, says:

"When morphine is cut off abruptly, there is great danger of collapse. This may supervene on the second or third day and the patient shows increased weakness, appears pinched and haggard, while **the pulse becomes small and then disappears.** Or, he may show a sudden high pulse tension, feebleness of the heart action and **suddenly fall** pulseless to the floor.

"Sometimes, the fatal collapse may occur without warning while the patient is quietly talking or sitting in bed.

"Still another form of collapse may occur; the face becomes deep red, the eyes shine brightly, the pulse falls to forty and the patient loses consciousness after a feeling of intense agony.

"These collapses may last for fifteen or twenty minutes; they may recur three or four times in the twenty-four hours and the patient may recover or **he may die in any of them unless morphine be given.**

"Fortunately, these attacks are rare when the drug is withdrawn gradually. But **they are fairly common when this is done abruptly.**

"There are some few cases on record in which the fatal collapse occurred some time after the patient was convalescent and had apparently passed through the symptoms of abstinence and was well on the road to recovery."

Dr. Ernest S. Bishop, in his book "The Narcotic Drug Problem" (page 35) writes:

"In observing opiate addicts over a length of time, no one can escape the recognition of a chain of constantly present physical manifestations, inevitably following the non-administration of the drug of addiction."

Dr. Bishop says that these may vary in different cases somewhat, but that:

"In a general way they may be said to

begin with a vague uneasiness and restlessness and sense of depression; followed by yawning, sneezing, excessive mucus secretion, sweating, nausea, uncontrollable vomiting and purging, twitching and jerking, intense cramps and pains, abdominal distress, **marked circulatory and cardiac insufficiency and irregularity,** pulse going from extremes of slowness to extremes of rapidity with loss of tone, facies drawn and haggard, pallor deepening to greyness, exhaustion, collapse, **and in some cases death.**

Dr. George E. Petty, in his book "Narcotic Drug Diseases and Allied Ailments," page 41, states:

"The abrupt withdrawal of an opiate from patents addicted to its use, without first preparing the patient's system for such withdrawal *is not only dangerous to life but is barbarous.*

"This course is not now pursued in any reputable institution for treatment, but it is often practiced in our insane hospitals and jails.

"Persons who are addicted to narcotic drugs are arrested, thrown into a cell, without any provisions whatever to supply them with drugs, and within twenty-four to forty-eight hours *the victim is taken from his cell a corpse,* having sunk into complete collapse.

"He was already in extremis when arrested, and, being thrown into a cell where he is helpless and unprotected, he soon *sinks into collapse and death closes the scene.*"

The narcotic squad maybe can not be expected to be familiar with scientific literature. But, there is no excuse for health organization and medical officials not showing knowledge of it.

If the New York City Board of Health had done more real medical and scientific and public health educational work and study on this matter, possibly we might have been spared the present condition of things.

JOHN Z. DAVIN.

New York City.

## CHLOROPHYLL

We are told that the blood of a healthy normal human adult contains less than (50) fifty grains of iron; that the amount of iron in cow's milk is very small. Yet, children and adults will live and thrive on milk alone. I have often thought that much of the iron prescribing was "a love's labor lost"; for, much more is given in daily dosage than the entire system requires, and, too, no individual is so anemic as to be entirely devoid of iron.

We have been taught that green things, especially spinach, were a proper thing to be prescribed for anemics—because of the iron they contain.

I now come to the real theme of this paper. It is this. In regard to the green things from the garden—spinach, lettuce, various spring greens, beet tops, Swiss chard, celery, green peas, I have observed with interest the avidity with which the anemics seek and feast ravenously upon them.

To my mind, it is not the iron content but something else that they carry; and I believe this to be chlorophyll. In these vegetables, the hungry cells find food—as do those of the lime-hungry ones who eat chalk and slate pencils. It is a hunger of the cells or, rather, deeper than the cell, the ion, that in a nature-given instinct the individual is prompted to seek his normal remedy, not for the iron so much as to place something in the blood that inhibits the action of certain toxins that are inimical to red blood cell growth.

From chlorophyll, I believe that in the future the physician will draw a most needed help in his conflict with the things that produce fatigue and disease.

Merck & Company have isolated an element from chlorophyll, that bids fair to lead the way. It is called Phyllosan. With pleasure we hail this new addition to our armamentarium.

C. S. COPE.

Tacoma, Wash.

[Doctor Cope's note is a fitting supplement to his remarks in CLINICAL MEDICINE for May, last (p. 328), in which he spoke of the important place that chlorophyll occupies in nature. The preparation referred to by him, Phyllosan, seems to promise well. It was investigated by Swiss clinicians who found that it has the power of rapidly increasing the hemoglobin content of the blood, besides exerting a decided roborant and invigorating effect on the entire system. If these claims are proved by experience, the suggestion thrown out by Doctor Cope in his earlier letter referred to may bring splendid fruit. It is to be hoped sincerely that it will.—ED.]

## POSTDIPHTHERITIC PARALYSIS—A CURE?

In CLINICAL MEDICINE for September (page 634), there is an abstract of an article by Halleck (*N. Y. Med. Jour.,* April

20, 1921) reporting a case of postdiphtheritic paralysis, the paralysis appearing some three months after the acute attack. The patient had been dangerously ill with the characteristic fever and other symptoms of the disease at its worst. However, he recovered without having received antitoxin. In the last paragraph it is said that the author takes the reasonable view that antitoxin is not indicated in paralysis, after toxin production has ceased, as in this case.

Since the man had had diphtheria from which he recovered, but still developed paralysis later on, there was toxin in his system that had not been neutralized by any antitoxin formed by the organism. Possibly there was toxin still being produced. Therefore, a dose of antitoxin would have benefited the patient.

If there was no further production of toxin going on, but there was unneutralized toxin persisting in his system, that was causing the paralysis, either a dose of antitoxin was indicated or, I believe, better still, a course of three injections of toxin-antitoxin. This would have started the immunizing mechanism through which sufficient antitoxin would have been produced to take care of the existing toxemia.

On the other hand, if (as I have found in several cases of postdiphtheritic paralysis) there persisted a focus of infection and a constant production of toxin causing all the symptoms of the disease but without any apparent membrane, antitoxin was certainly indicated and in fairly large dose. In that event, however, the patient would not tolerate the toxin-antitoxin, because the toxin is not neutralized and would merely be added to that already in the system. There would follow a marked local reaction associated with general systemic symptoms.

I believe that the majority of late postdiphtheritic cases belong to that class where there is a focus of infection present. These are usually cases in which a sufficient dose of antitoxin was not given during the acute attack. It is a recognized fact that the action of antitoxin persists for from ten days to four or five weeks. Where an insufficient dose has been administered, the acute symptoms subside; but, there remains a subacute condition which usually begins to manifest symptoms in six to ten or twelve weeks. At that time, the patient will show all the clinical symptoms of diphtheria with paralysis. At times, an ear will ache or there may be a discharge from it. This discharge usually contains diphtheria bacilli. In these cases, a positive culture of the bacillus may commonly be obtained from the pharynx.

L. A. Burrows.

Chicago, Ill.

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[Doctor Burrow's explanation for the occurrence of paralysis undoubtedly is correct. Paralysis, in these cases, is an evidence of toxemia which is present because all toxin has not been neutralized or all toxin formation has not been arrested. In such an event, undoubtedly, a suitable dose of antitoxin will cause the toxin to be neutralized and eliminated. The administration of the toxin-antitoxin preparation would, of course, depend on circumstances present.—Ed.]

## IDEALISM OPPOSED TO MATERIALISM

[Several months before his death, Doctor Butler received the subjoined letter from a subscriber to Clinical Medicine and a warm admirer of Butler's writings. Having come into possession of this letter, which affords an excellent instance of the high estimation in which Butler was held and also deals with some problems that have given many of us deep concern, we print it, thinking that it may accomplish some good to a wider circle of readers.—Ed.]

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December 8th, 1920.

The one outstanding feature in your writings, which is especially appealing to me, is your endeavor to create an atmosphere of idealism, apparently the best medium of spiritual communion between you and your readers.

This tendency to bring into prominence the idealistic philosophy of life actually serves as a connecting link and perhaps rejuvenates the tradition of the old Boston literary school whose members and creators were also exponents of the same philosophy. We are in need of just that sort of teachings! We want the gospel of idealism to be preached so it may serve as antitoxin against the prevailing doctrine of materialism.

See what terrible consequences have come

to the door of humanity since this vicious doctrine has taken hold on the people. For, as the Bible says: The character of man is bad from its infancy on. The periods of barbarism and the early centuries have proven this saying to be axiomatic.

The great lawgiver, Moses, has by his wise teachings somewhat modified the cruelties of men in their relation to one another. Various other teachers of mankind, following in his footsteps, have proclaimed great truths to be governed by, and the human society has become better and nobler with the advance of time.

Of course, many of the atavistic characistics flared up from time to time, resulting in war, bloodshed and severe injustices; but, still, we were moving toward a better world.

This onward movement was again primarily due to the flourishing state and multiplicity of schools and systems, whose main purpose was, to produce higher ideals and a better standard of life.

The Rennaissance period, the Reformation and the French Revolution were the culminating points, the volcanic outpour of the forces, undercurrent in the stream of social life which bore on the wings of its destructive mechanism the foundation of a new and better world.

All through these periods, we observe the same phenomenon: The moral forces, working for the uplift and betterment of humanity, come to the front at the crucial point when society seemed to take a great step backward.

We are going through just such a period nowadays. The cruel war which has passed over our heads has wrought so much destruction, has called forth to within the hungry masses the basest instinct so much that the more pessimistic of us fear that we have reached the stage of cannibalism.

Not one bright ray pierces through the thick clouds of gloom and despair. National hatred and social prejudice is rampant. The Pole tries to destroy the Jew, the Turk the Armenian. France wishes to crush Germany and the U. S. has to keep a vigilant eye on Japan. What has become of civilization? What of the high-sounding phrases of brotherly love and neighborly harmony? Are the teachings of the Carpenter of Nazareth forgotten completely? For whom then was the Declaration of Independence written, to whom the Magna Charta given?

How could William Morris write his Utopia and Tolstoi his new Evangelium of human perfection? It seems, all this lofty structure of culture and civilization has crumbled into dust and it is left for us idealists to rebuild a new and better world. The proclamation of a new era—an era of reality coming must be carried on by the spoken and written word.

You do your share in a splendid fashion. Moreover you serve stimulation to those who enter the threshold of mature life, to keep their heads high and their hearts pure.

You foster noble ideas and generate lofty ambitions. I for one hail you as a teacher whose disciple I am proud to be. May you long continue your splendid work.

B. W. Abramson.

Anamoose, N. D.

# Among the Books

## "THE OXFORD MEDICINE"

The Oxford Medicine. By Various Authors. Edited by Henry A. Christian, A. M., M. D., and Sir James Mackenzie, M. D., F. R. C. P., etc. In six volumes. Illustrated. Vol. IV. Diseases of Lymphatic Tissue, Metabolism, Locomotor Apparatus, Industrial Disease and Infectious Diseases. New York: Oxford University Press. 1921.

The fourth volume of "The Oxford Medicine" deals with such important topics as diseases of lymphatic tissue, metabolism, locomotor apparatus, industrial disease and infectious diseases. It contains thirty chapters, covering 938 pages of text. Among the American contributors to this volume, we find Colonel Vedder, Medical Corps, U. S. A., Dr. Joseph L. Miller, of Chicago, Dr. Henry A. Christian, of Boston, Dr. Alice Hamilton, of Boston, and a number of others among the leaders in their own particular fields of research. The fact that Dr. Elliott P. Joslin has written a chapter on diabetes mellitus assures its excellence.

The publishers of "The Oxford Medicine" have been fortunate indeed in securing as contributors writers who truly are so fully familiar with their particular subjects as to be looked upon deservedly as authorities. It is a useful work and one that should be studied by general practitioners. Still, it is difficult, if not impossible, to review the individual volumes as such. We must content ourselves with assuring our readers that the work is excellent.

## LYDSTON: "THE JEW"

That Bogey Man the Jew. By G. Frank Lydston, M. D. Kansas City: Burton Publishing Company. 1921.

To say that Frank Lydston has written this book and that he slaps Mr. Ford's wrist for his silly attempts to create anti-semitic agitation in this United States of ours should be sufficient to introduce it. Doctor Lydston is nothing if not frank (The pun is not ours. Frank is his name, you know—and his nature) and he is quite clear in what he says. He leaves nothing to the imagination; there is no double meaning in his remarks. They are strictly to the point. Consequently, it is to be hoped that Mr. Ford and those who are actually responsible for the cacographic and scurrilous pronunciamentos in the *Dearborn Independent* will read this little book, mark and inwardly digest its contents.

Lydston is not absolutely and unconditionally an admirer of the Jews, but he is fair enough (as every man should be) to admit the many excellent qualities presented by them as racial characteristics. Still, he doesn't hesitate in the least to "spank" them, as he expresses it himself, when he thinks they need it. In short, he is utterly and absolutely fair in his judgment, which, after all, complies with the basic conditions for pronouncing judgment.

## HORSLEY: "OPERATIVE SURGERY"

Operative Surgery, by J. Shelton Horsley, M. D., F.A.C.S., 721 Pages, 613 Illustrations, St. Louis, C. V. Mosby Co., 1921.

This is a good book by a good surgeon and, because it is so, it merits serious criticism, particularly so because there is no dearth of surgical textbooks of all classes.

Part of what would have been real criticism is disarmed by the author; for, in the preface, he plainly asserts that it is not his aim to include all operations. Finally, this is a monograph, based on personal experience, in spite of the fact that many operations are those of other surgeons than the author.

Considering the circumstance that more than one-third of the volume is filled with original illustrations—and they are truly excellent ones—the general practitioner and occasional operator will find in this volume a real help. For, what may be

left in doubt by the text, which needs editing, to say nothing of occasional typographic errors, is fully amplified and illuminated by the drawings and photographs. The chapters on plastic surgery are particularly good, though one misses illustrations where they are really much needed, as for example, in operations on the bile-ducts, for hypophyseal tumor, and so on.

Three reasons make this book particularly valuable. First. It is the product of one individual who has certain convictions of value. The one result—physiologic restoration—is to him the most important *raison d'être* of surgery, so that a spirit of sane conservatism permeates the entire work.

Second. It is up to date. Operations which but a few years ago were known only to specialists are well described, and modifications, calculated to enhance the end results, whether original with the author or the labor of others, are well discussed and often plainly illustrated.

Third. The most common operations are given adequate space.

If any criticism is justified at all, it is that the author has not omitted even such operations as would naturally come under the heading of surgical specialties, as for example, operations on the eyelids.

The mechanical make-up of the book is a credit to the publisher. We recommend this volume earnestly to every operator—not for the bookshelf, but for the reading table.

## PEARSON: "FASTING"

Fasting and Man's Correct Diet. By R. B. Pearson, Construction Engineer, Certified Member American Association of Engineers. Chicago. Published by the Author. 1921.

This would be a very acceptable book in a good many ways, if the author would only stick to his text. There are extant a good many treatises on the science of eating, and also on the treatment of disease by the regulation of food, including its temporary withdrawal (or therapeutic fasting)—a good many books that have been written by laymen. Some of them are good. So, there could be no essential objection to a book on this topic by Mr. Pearson who is not a medical man but a construction engineer and a certified member of the American Association of Engineers.

There is nothing particularly new in the subject matter covered in the first two chapters which relate the author's experience with catarrh and with fasting employed as a method for its cure. Physicians have long since insisted on the regulation downward of diet in diseases or disease symptoms that are manifested by catarrhal phenomena. The well-known slogan "clean up, clean out, keep clean," which is virtually what the author preaches so vociferously, has originated with some well-known physicians, regular physicians at that, and who never went outside their profession in promulgating their ideas but preached them successfully to their own colleagues.

This remark seems called for through the vituperation and cheap claptrap accusations that Mr. Pearson, construction engineer, hurls at the entire medical profession of the regular school. He is vindictive and insulting in the charges that he brings against the medical profession, virtually accusing its members of gross ignorance and also of deliberate bad faith and dishonesty in their treatment of the sick. The fact that Mr. Pearson is a certified member of the American Association of Engineers and that, presumably, he believes himself to be a very competent engineer, can hardly, by any stretch of imagination, enable him or give him the right to pose as an authority on problems that have occupied the most careful investigators among physicians and biologists for many years. Yet, the author is so convinced of the utter and profound ignorance concerning the laws of nature "of the socalled regular school of Allopathic physicians" that "he has not much hope to convert them but wishes to reach the general public instead. Indeed, he believes that the treatment of disease should be confined to such drugless schools of medicine as the Naprapaths, Osteopaths, Chiropractics, and so forth; those Allopaths who believe in the germ theory and in surgery as a cure of disease being barred from practice entirely." Thanks. It might be a good thing to try it. Those "medical-freedom"(?) enthusiasts might have to learn a few wholesome lessons.

As far as medical theories are concerned, in which, of course, Mr. Pearson, construc-

tion engineer, must be denied competence of judgment, his twaddle reminds one very much of the equally foolish chatter of the antivivisectionists and all their ilk. Mr. Pearson, like many other uncritical and, therefore, strong-worded writers of his kind, bases his sweeping conclusions and his absolute condemnation of the medical profession upon certain premises, all of which are wrong. According to Mr. Pearson, construction engineer, the regular physicians "claim germs cause disease when, in fact, it is well established that they do not. They are only nature's scavengers of the diseased tissues and decayed foods." . . . "They claim that drugs cure disease, another claim built on absolute false grounds . . ." "They claim that a person must continue to eat to keep up his strength —another fallacy as false as the first two . . ."

If Mr. Pearson knew much about the actual claims of medical investigators and about the opinions of all thinking and reading physicians, he would be aware of the fact that it has long since been established that germs are not to be considered as *the* cause of disease but only as a potential cause; several other coexisting conditions being essential for the production of disease.

The Reviewer doubts whether there is a single regular physician to be found who claims that drugs *cure* disease. Indeed, it is a great many years since that fallacy has been abandoned entirely by physicians who have recognized that drugs can only be employed for certain purposes in guiding nature to restore physiological processes whereby disease may be arrested and, occasionally, cured. Despite persistent teaching, on the part of physicians, however, laymen (and women) still persist in asking for "cures," meaning drugs. The responsibility is not to be placed on physicians.

Physicians do not claim unconditionally that a person must continue to eat to keep up his strength, the occasional withdrawal of food and the radical cleansing of the intestinal tract having been established fully as essential measures in the treatment of many conditions of illness and having been advanced as necessary factors by regular physicians.

With all this, the Reviewer desires to urge his readers to purchase Mr. Pearson's book. What there is in it of truth may well be read and much of it is truly interesting. What it contains of fancy and fallacy (and that is much), is at least amusing and entertaining. Besides, it is wholesome to read, put in such bald if sometimes crude words, what others think of us and how they see us. Even though a mirror may be faulty in its construction and reflect a caricature instead of a true image, it may have its uses. The Reviewer has been hugely amused and greatly edified while reading Mr. Pearson's book and his review copy is covered fairly copiously with marginal notes. If Mr. Pearson had even a faint glimmering of a sense of humor, he would have seen how excruciatingly funny his diatribe against the medical profession is. It's almost as funny as are the quibbs and cartoons in *Life*.

## KEITH: "MENDERS OF THE MAIMED"

Menders of the Maimed. The Anatomical and Physiological Principles Underlying the Treatment of Injuries to Muscles, Nerves, Bones and Joints. By Arthur Keith, M.D., F.R.C.S., LL.D., F.R.S. Illustrated. London: Oxford University Press. 1919.

This is an interesting history of the development of orthopedic surgery, with brief biographies of some of the men who have done most to put it on a scientific basis. Such are, John Hunter, Duchenne, John Shaw and others. It was an event of the greatest importance when, in 1745, the surgeons of London asked Parliament to separate them from the Guild of the Barber-Surgeons who had always maintained secrecy as to their methods. The new corporation of the surgeons, which was later to become the Royal College of Surgeons, was formed because they were determined to have done with mystery and to throw their knowledge open to the world for the benefit of all mankind. They also cut loose from the bonesetters who formed quite a numerous guild in England and Wales, and whose description by John Shaw (1824) reads startlingly like a description of their modern followers. "Now it happens," says Shaw, "that some of the rubbers appear to do good by what seems to me to be mere parade, as, when they pretend, by certain manipulations, to put

bones and muscles into their proper places. They pretend to push the bones of the spine back into place after the vertebræ have been 'softened to a jelly' by an hour's hard rubbing." How familiar it all sounds! Only, the modern bonesetters have adopted high-sounding names, while their methods remain the same.

The chapter on "Bone-setting—Ancient and Modern" should be published in pamphlet form and scattered broadcast.

## HURST: "PSYCHOLOGY OF SPECIAL SENSES"

The Croonian Lectures on The Psychology of the Special Senses and Their Functional Disorders. By Arthur F. Hurst, M.A., M.D., F.R.C.P. London: Oxford University Press. 1920.

This book consists of the ten Croonian Lectures delivered before the Royal College of Physicians, in June, 1920. They deal largely with the experience of the author and others in the Great War. The mental and nervous disorders among the soldiers on all fronts, usually spoken of as shell shock, but including many forms of neuropathology, constitute a fruitful field for study. In no previous war was science so well prepared to deal intelligently with these cases, and never was there such an opportunity for adding to the world's knowledge of psychopathology. These lectures are an able presentation of the subject.

## BRADBY: "UNCONSCIOUS MIND"

The Logic of the Unconscious Mind. By M. K. Bradby. London: Oxford University Press. 1920.

Notwithstanding the similarity of the terms "unconsciousness" and "subconscious," the reader need not fear that the present work is the utterance of some one who seeks to explain occult phenomena by the theory of a "subconscious mind." The "Logic of the Unconscious Mind" is quite a different affair and deals with a different subject. It is a study of the reasons why men act and think as they do, and an attempt to show how they might act more efficiently and think more truly. The human race acts largely on purblind intuition and stoneblind instinct. The author investigates the mental tendencies which lead to wrong reasoning. In her preface, she disclaims a knowledge of philosophy; but her method of dealing with her subject is strictly philosophic; that is, she observes facts and then attempts to interpret them. The action of the human mind, as we see it all around us, forms the subject of some interesting discussions and conclusions. We found it difficult to lay the book down until we had finished it. The author is not so much inclined to settle questions by dogmatic assertion as to set her reader thinking; which is, after all, the best service an author can do to a reader.

## COPE: "DYSENTERY"

Surgical Aspects of Dysentery Including Liver-Abscess. By Zachary Cope, B.A., M.D., M.S. Lond., F.R.C.S Eng. Illustrated. London: Oxford University Press. 1920.

A large experience with the surgical aspects of dysentery was gained in the late war by those British army surgeons who were in charge of the various expeditions to tropical and subtropical countries, such as Gallipoli, Egypt, Mesopotamia, Persia, and East Africa. The present author was one of those, and this book is a résumé of his own experience and that of others. Though small, it will add much to our knowledge of the subject. The fine typography of the book is worthy of its publishers.

## KAHN: "FUNCTIONAL DIAGNOSIS"

Functional Diagnosis. By Max Kahn, M.A., Ph.D., M.D., in Collaboration with Morris Hirsch Kahn, M.D., and Jacob Rosenbloom, Ph.D., M.D. Foreword by William J. Gies, M.S., Sc.D., Ph.D. New York: W. F. Prior Company, Inc. 1920.

While this book will appeal more particularly to clinicians in large hospitals, who have at their disposal the various laboratories and other paraphernalia necessary for the carrying out of the numerous function tests described in it, it is really no less interesting to the general practitioner who can manage to get enough leisure for a detailed and careful study of his patients. The book constitutes the result of an enormous amount of work done by the authors in clinics and laboratories. It discusses the gastrointestinal function tests, the pancreatic function tests, the liver function tests,

the tests of the functional capacity of the circulation, the functional tests of the endocrine glands and the kidney function tests. Those interested in clinical laboratory research will find the volume of especial value.

### DAYTON: "PRACTICE OF MEDICINE"

Practice of Medicine. A Manual for Students and Practitioners. By Hughes Dayton, M. D. Fourth Revised Edition. Philadelphia: Lea and Febiger. 1921.

A small volume for ready reference often is very convenient for refreshing one's mind, both as to diagnosis and to treatment of a symptom complex that may confront the practitioner. Doctor Dayton's manual emphatically belongs to the better class of books of its kind. Etiology, pathology, symptomatology are sufficiently clearly outlined to be informative and to offer workable data, while the paragraphs on diagnosis and treatment likewise are distinctly helpful. The little book fills an important niche very acceptably.

### BROWN: "PSYCHOLOGY AND PSYCHOTHERAPY"

Psychology and Psychotherapy. By William Brown, M. A., M. D., (Oxon.), D. Sc. (Lond.) 196 Pages. New York: Longmans, Green and Company. 1921.

The study of these subjects has received a prodigious stimulus from the casualties of the late war. The number of soldiers who returned from all the armies in an abnormal mental state is very large. Their condition is usually spoken of as "shell shock," but in many cases the explosion of shells had nothing to do with producing it. Many of them are a form of hysteria. This book discusses fully every phase of the subject whether war-produced or not. The chapter dealing with war cases and their treatment is of especial interest even to the civilian physician.

### BOOTH: "RADIANT ENERGY"

Radiant Energy and the Ophthalmic Lens. By Frederic Booth. 226 Pages. 230 Illustrations. Philadelphia: P. Blakiston's Son and Company. 1921.

Also: Light. By the same author. A pamphlet of 16 pages. Illustrated.

The book is a setting forth from the author's point of view of the principles of optics, and their application to the human eye, covering thoroughly, though briefly, the field of ophthalmology.

The pamphlet is devoted to explaining why the author does not accept the wave theory of light, nor any of the present-day theories. He claims light to be an unknown element, and the mode of its propagation to be also unknown, and he rejects the theory of the ether. Apparently, he has no theory to substitute for those which he rejects.

### NISSEN: "PRACTICAL MASSAGE"

Practical Massage and Corrective Exercises With Applied Anatomy. By Hartvig Nissen. Fourth Edition. 225 Pages. 68 Illustrations. Philadelphia: F. A. Davis Company. 1920.

A very concise but complete manual of massage. If we, as a profession, would inform ourselves better on the subject of massage, we would appreciate better what can be accomplished by it. The various cults of "bone-pushers" that have deluded so many of the laity, get their results by massage. Their patter about displaced bones is made for its psychological effect. They know that the average man or woman will swallow any alleged anatomical fact, if it is only plausible. They do undoubtedly relieve certain forms of neuritis, lumbago, and so forth, which can not always be reached by medicine, but which could be cured by a skilled masseur, and that without having to believe any marvelous stories about replacing a displaced vertebra. If we knew more about massage and used it, we would be spared the mortification of hearing people tell how so and so was cured after the doctors had failed. This book should be not only in every doctor's library but on his desk where he could dip into it whenever he had five minutes' leisure.

# Condensed Queries Answered

**While the editors make replies to these queries as they are able, they are very far from wishing to monopolize the stage and would be pleased to hear from any reader who can furnish further and better information. Moreover, we would urge those seeking advice to report their results, whether good or bad. In all cases please give the number of the query when writing anything concerning it. Positively no attention paid to anonymous letters.**

## Answers to Queries

In answer to Query 6591.—"Necrosis Following Rattlesnake Bite." This is my very recent experience: Male, white, farmer, twenty-six years old, 165 pounds, was bitten on first joint of fore-finger on left hand, August 24, 1921, 10:30 a. m. This man came under my care at 12 o'clock noon. Hand swollen up to tourniquet, which was placed just above the wrist. Vomiting red fluid.

I froze the finger and made five incisions which bled profusely. I had him suck the finger fast and furiously for thirty minutes. In the meantime, I administered hypodermically strychnine sulphate, gr. 1-15, with atropine, gr. 1-75; also ordered fl. ex. echinacea, one dram by mouth, with instructions to give ½ dram of the preparation every hour thereafter.

Six hours later, I filled the incisions with potassium permanganate crystals. Arm swelled to shoulder on third day, but came back to normal on fifth day. Temperature normal. Went back to work on the eighth day.

My success was all that could be hoped for regardless of treatment.

Some other treatments may be better and more scientific but results could not be better.

J. B. H.

Arkansas.

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## Queries

QUERY 6595.—"Leukoderma, or Vitiligo." T. H. S., Mexico, wants to be told something about the white spots that appear in the skin of dark people. He has observed them in Negroes of the south as also in the Indians of Mexico and Central America. He has a patient, a young lady, who wants to be relieved of those spots. She is very little mixed with Indian, probably one-eighth, being very white for a mixed breed. She is very pretty but for this disfiguration which injures her matrimonial chances.

T. H. S. complains that, in everything that he has read about it, nobody seems to give a bit of relief when it comes to curing the condition and restoring the pigment to the skin. He dislikes to have to say, "I don't know," or "Madam, there is no cure for you." T. H. S. adds that he has seen similar spots on the skin of pure white-blooded people and even of red-headed persons.

There is nothing astonishing in the difficulties and want of success attending the treatment of this condition, since the etiology is entirely unknown. It is generally considered to be a trophoneurosis. Occasionally, there is evidence of hereditary influence, several members of the same family being affected. The malady may start after an injury, after a burn, after too strong a caustication. In fact, the application of strong remedies should be employed with care in natives. Leukoderma patches have appeared after the application of pure formalin. They may develop also in chronic epiphytic skin diseases, the fungi apparently having a deeply disturbing effect on the pigment formation.

Dr. J. B. Christopherson recently reported an observation (*The Lancet*, March 12, 1921) where patches of leukoderma appeared in a Sudanese boy, aged 18, who was being treated intensively by injections

of antimony (potassium) tartrate for kala-azar.

IN, CLINICAL MEDICINE for December 1918, Query 6407 dealt with leukoderma, and it was pointed out there that arsenicals, for instance, sodium cacodylate intravenously, or intramuscularly, *may* be of service in view of the fact that the trouble occasionally occurs on a syphilitic basis. Those who consider it as a neurosis have given bromides, while an endocrinopathic origin would present an indication for hormone therapy.

While it is usually said that the general health is not impaired in persons showing plaques of leukoderma, Castellani and Chalmers, "Manual of Tropical Diseases," say that, in their experience, when the patches are large and situated on uncovered parts of the body, especially the face, symptoms of severe asthenia have been noticed. Moreover, the patients complain that they can not do any work in the sun, as they experience a burning sensation in the white patches and they suffer from giddiness. The asthenia and giddiness, it occurs to us, are typical of adrenopathy; even though the authors named have seen no benefit from the administration of suprarenal extract, it occurs to us that this treatment is justified symptomatically. This idea is supported by the fact that, occasionally, a slight improvement may be brought about by energetic arsenical treatment, for which Castellani and Chalmers prefer arsenious acid in pill form (1/50 grain) three to six times a day, or atoxyl injections (5 grains) every other day. As already indicated, our preference would be for sodium cacodylate by intravenous or intramuscular injection.

Unfortunately, authorities agree in pronouncing the prognosis decidedly discouraging. Pusey ("The Principles and Practice of Dermatology") declares that internal treatment is ineffective although arsenic, pilocarpine, thyroid extract and suprarenal extract have all been recommended. He resorts to palliative measures, rendering the patches less noticeable by treating the borders for the removal of the more intense pigment in the same way that patches of chloasma are treated. White areas may be disguised temporarily by staining faintly with dilute solution of walnut juice or chrysarobin.

A very good paint for concealing patches of leukoderma can be made by the following formula, given by Pusey.

Glycerin .....1 to 4 drams
Zinc oxide and calamin, of each.....1½ oz.
Water .....1 pint

To this, ichthyol should be added until the proper tint is obtained to match the patient's skin. Usually from 10 to 60 drops of ichthyol are necessary. This should be added when the patient is present, in order to get the proper tint. For concealing the discoloration about the face and neck of ladies, this application has proved useful.

It will be seen, therefore, that T. H. S.'s patient's chances to be relieved of those unsightly patches are very slight—unless it can be found, through positive Wassermann test, that, in her case, there is a syphilitic basis. In that event, intensive antispyhilitic treatment by sodium cacodylate or by neoarsphenamine, perhaps associated with mercury inunctions, would possibly offer some chances for good results.

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QUERY 6596.—"Obscure Dermatitis." "Indian Fire." H. G. M., Louisiana, has encountered "quite a few cases of skin disease among children. It begins with small blisters and spreads rapidly—more on neck and chest, but comes anywhere on patient. Some local doctors call it 'Indian fire.'" Our correspondent cannot find such a term in any of his books and asks: "What is the disease and where can I find out about it? What is 'Indian fire' anyhow?"

The skin trouble among children, concerning which you write to us, looks very much like a dermatitis venenata; that is to say, poisoning by some such plant as poison ivy, oak, sumac, or nettle (urtica).

The term "Indian fire" is unknown to us and we cannot find it in any of our books on medicine, including those on domestic medicine. However, we shall try to make further investigations. In the meanwhile, it seems to us that Epsom-salt solution applied on compresses to the affected portions of the skin (tablespoonful to the quart) would go far in allaying the irritation. Sodium-bicarbonate solution also probably would tend to give relief.

You do not tell us anything of the lesions beyond the fact that there are "small blisters that spread rapidly." Are the vesicles discrete or confluent; does the content become purulent or is healing fairly prompt and spontaneous? Is there any constitu-

tional disturbance? What have you found to be of service in treatment? Any information you can give us describing the trouble in greater detail might make it possible for us to determine its nature.

Shortly after dictating this letter, the writer met a physician who had been an interne in a New Orleans hospital and told us that "Indian fire" was an affection of the scalp looking much like ringworm. A colleague states that the term has been applied to eczema.

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QUERY 6597.—"Deficient Virility." C. A. B., Iowa, is treating a male, about thirty-five years of age, married, a dentist by profession, whose testicles "are rather flabby and somewhat smaller than normal. He had mumps when a boy and the testicles were involved. He finds erections rather weak, and treatment so far has made no noticeable impression on the case."

Your patient does not present a very hopeful case, for the reason that such a condition following after mumps always is serious—not organically but functionally.

The mumps infection seems to have a predilection for the gonads—either the testicles or the ovaries—and to interfere very profoundly with their functioning power.

It would be useless for you to attempt treatment with the customary aphrodisiac remedies, it being exceedingly improbable that these would have any satisfactory effects. In addition to hydrotherapy and perhaps gentle electric treatment, most reliance, it seems to us, is to be placed upon certain endocrine substances which many times have worked surprisingly well. We are thinking particularly of anterior pituitary substance, the ingestion of which has been frequently followed by an increased potentia coeundi. Small doses of thyroid (¼ grain at night) might help, although that is not very certain.

The Harrower Laboratories, in Glendale, California, offer a splendid formula that probably would be of value. The remedy is known as Adreno-Spermine Comp. (Harrower), and the laboratories supply it at the price of $3.50 per 100, unless we are much mistaken.

Further than that, you will of course see that this man does not suffer from autointoxication, that his elimination is thoroughly in good order, that he takes sufficient exercise (but without excessive fatigue) and that he makes some hydrotherapeutic applications, such as cold spongings, night and morning. The application of the gentle faradic current over the perineum is occasionally followed by good results. That, though, should not be carried too far lest harm result.

Try to restore your patient's courage and instill a reasonable confidence in him even though you must be careful not to promise too much.

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QUERY 6598—"A Diagnostic Problem." "Fever." E. B., Oklahoma, reports the case of a female, age sixteen, who "began feeling bad on the 10th; was sick one week, complaining of pain in her legs, head and neck at base of skull. On the 14th, at 5 p. m., had what her parents called a congestive chill. Next a. m., about 1 o'clock, had another chill. Temperature 104°. I was called and saw the patient at 10 a. m. Physical examination revealed the following: Liver enlarged; spleen enlarged; abdomen negative with the exception of pain in right iliac fossa on deep pressure. Heart normal, lungs normal, respiration normal. Tongue slightly coated. Patient complained of pain in region of kidneys and in legs. Temperature 103.2°. Diagnosis, malaria. Treatment: Quinine, grs. 5, every three hours, after cleaning bowels with calomel and soda.

"On the 16th: Temperature 102.4°; pulse, 104; systolic blood pressure 100, diastolic, 80. Pulse pressure, 20. Heart good, abdomen negative. Pain in legs and back much less. Urine: sp. gr. 1022, reaction acid, color red; no blood, no albumin, no sugar. Patient complained of dyspepsia at times. Treatment as before, with oleum terebinthinæ, minims 10, castor oil, drs. 11, each day.

"17th: Patient seemed some better, though she had one or two spells of dyspnea. Fever ranged from 103 to 103.5°. Discontinued quinine (reason: patient's sister was in bed in adjoining room, with typhoid fever and in her fourth week). Put patient on intestinal antiseptics, two tablets every two hours, and continued the castor oil and turpentine once daily; with cold sponge baths. Ice to head, etc. Diet had been suitable for fever case from the start. Defervescents (aconitine, digitalin and veratrine) were given to hold fever down; one granule of the combination every thirty minutes. This, however, did not reduce the temperature appreciably.

"18th: Was called hurriedly during the forenoon to see patient. Father said that she had another congestive chill early in the morning, and that he came after me as soon as he could get away. I found the patient unconscious, eyes open, pupils dilated, breathing with difficulty, skin blue, wet with sweat and cold; the temperature was 105°, and the mother told me it went to 106° about two hours before I arrived. However, it had dropped to 99° about 11 p. m. Atropine, strychnine and nitroglycerin were given at

once, with no effect at all. Atropine was repeated, and as a last chance I gave camphor in oil. Patient died at 9:20 a. m. Diagnosis: malaria.

"I shall be glad to hear from you in regard to your opinion in this case from the history, also as to my line of treatment. Above all, I want you to line me up on the treatment of typhoid and paratyphoid fever. I am tired of watching a patient three or four weeks with fever. Help me.

"I feel that a laboratory diagnosis would have proved malaria or disproved it. Then I could have forgotten the typhoid patient and continued with quinine, if needed."

We have given more than usual attention to this description.

Unfortunately, it is impossible, with the data at our disposal, to venture a definite diagnosis. The fact that, at the time this girl was sick, another sister was in the fourth week of typhoid fever, would seem to have a material bearing on the case, and yet, it is quite possible, of course, that your patient did not suffer from enteric fever at all.

As you are aware, it is not always an easy matter to differentiate between typhoid, malaria, abdominal influenza and pyemia. In these days, we recognize the fact that, while malaria may occur in association with typhoid fever, there is no such thing as a specific typhomalarial fever. Influenza may coexist and, sometimes, to diagnose abdominal influenza from typhoid may be almost impossible.

Furthermore, unless thorough examination is made of urine, blood and feces, and definite results are obtained therefrom, typhoid fever itself may not be recognized in the first stages. The complexity and variety of the symptoms have, as you are aware, resulted in a description of many forms of the disease.

As we understand it, in this case, the patient had been sick one week; complained of pain in the head, base of skull and legs. It would appear that during this time, the temperature was not taken. We do not know, therefore, whether there was a continuous fever or a preliminary periodic hyperpyrexia. On Sunday the 14th, the patient having been sick one week, she had a rigor and this rigor occurred again at one a. m. the next morning. The temperature at this time, or shortly after, was 104°. At 10 a. m., you found the liver and spleen enlarged, abdomen negative with the exception of pain on pressure in the right iliac fossa, the heart normal, lungs normal, respiration normal (this is difficult to understand, considering the temperature), and the tongue but slightly coated. The temperature at this time was 103.2°

A diagnosis of malaria was made. The bowels emptied with calomel and soda, and quinine, grs. 5. was ordered every three hours.

On the 16th, under this treatment, we have a temperature of 102.4°; a pulse rate of 104; systolic blood pressure 100, diastolic 80; and a comparatively satisfactory urine, but the patient complains of dyspnea. You do not state the respiratory rate.

On the 17th (Wednesday), the dyspnea had become more marked and the temperature remained around 103°. Quite naturally, considering the clinical picture, you questioned your earlier diagnosis of malaria and commenced to administer intestinal antiseptics, in combination with castor oil and turpentine; at the same time you ordered cold sponge baths, ice to head, and a defervescent combination, one granule every thirty minutes. Under this treatment, it seems, the temperature was not definitely reduced, though it dropped to 99° at 11 p. m., later soaring to 106°, evidencing an intense—and terminal—toxemia. Under the circumstances, it is a question whether atropine, strychnine and camphor in oil could have averted the catastrophe.

Naturally, the question which arose in your mind, which still remains and must forever remain unsettled, was: Did my patient have enteric fever or pernicious malaria? But, the possibility that neither of these diseases existed, that this may have been a case of abdominal influenza or of pyemia (the focus of infection not having been discovered) must also be considered seriously.

This could hardly have been an ordinary tertian or quartan type of malaria, though you may have to deal with a pernicious form—rare, of course, in your part of the world. Here disorder commences with a febrile paroxysm; the temperature is often high, and the patient may pass into a coma within twenty-four to thirty-six hours. It is unusual, in this type, for the patient to be sick for a week prior without definite hot and cold stages. Sweating does not seem to have been present in this particular case at any time.

There is a hyperpyrexial form, of course, in which the temperature continues to rise. In this instance, however, there were vari-

ations, and the closing picture was not such as one would expect.

Under the circumstances this writer is inclined to consider that you had to deal with one of the graver forms of enteric fever, and the patient, at the time of her death, was probably at the tenth day of her disease. There may, of course, have been an associated infection.

As you observe, yourself, it is extremely regrettable that the necessary laboratory examinations were not made.

You will readily understand that it is absolutely impossible in the scope of an ordinary communication to discuss intelligently the modern conception of the cause of fever. We must, however, accept hyperpyrexia as a danger signal evidencing, in the majority of cases, bacterial invasion, and there is little question that it is undesirable to attempt to reduce, by the administration of antipyretics alone, an ordinary rise of temperature. Recognition and removal of the cause will result almost invariably in a prompt reduction or total disappearance of the fever. Here, perhaps, we may be pardoned for calling attention to the fact that we have, for the last twenty years, urged the physician to *treat pathological conditions present in the individual*, i. e., to seek for and correct the cause of symptoms which are present. At the same time, now as in the past, we believe it perfectly proper to attempt, from the first, to *control* hyperpyrexia and to equalize the circulation.

In this particular connection, it is well to remember that most observers agree that in all fevers there is an increased protein metabolism, but no increased fat metabolism except such as may result from inanition in the individual. It has been pointed out that food does not increase the heat production or temperature in typhoid fever, even when given in large amounts, providing that the quantity of protein is kept relatively low. It is asserted that, just as in health, the body uses carbohydrates in preference to fat or protein to meet the increased demand for energy in typhoid fever; hence, the necessity of a predominance of carbohydrates in the diet of a typhoid fever patient.

The most modern idea is, that fever consists of two main characters—thermogenic and toxogenic. The toxins stimulate the cells causing increased metabolic change and consumption of energy. Hence, Ott considers that fever can be briefly described as a neurotoxogenic process. In his "Fever; Its Thermotaxis and Metabolism," published by Paul B. Hoeber, of New York City, he says:

"That there is no increased production of heat in the stages of continued fever, but only a disarranged regulation of heat, is quite evident to anyone who has stood by the bedside of a typhoid fever case in its terminal stages, with a high temperature, when the body looks more like a cadaver than like a living being throbbing with the fullness of blood and life. To imagine, despite the paucity of food, the wasting of the cells of the muscles and of the viscera, that the fever is due to increased production of heat is ridiculous."

There is little question that you will find perusal of this little volume and other works on the subject of fever well worth study. Whether, however, the conclusions that the laboratory men arrive at will *materially* change your therapeutic methods, is a question.

We wish we were able at this time to supply you with literature on the treatment of typhoid and paratyphoid. If, however, you have access to a file of CLINICAL MEDICINE, we would call your attention to the article on page 759, of the September 1916 issue; also to the answer to query on the use of the Typho-Bacterin and Typhoid-Prophylactic Bacterin in typhoid fever on page 469, May 1916.

Besides the typhoid bacillus, there are other related organisms which cause their own special disorders. Among these, the paratyphoid bacillus stands prominent. It causes a fever very closely resembling typhoid, both in its symptoms and its course. In fact, the differential diagnosis from typhoid fever can only be settled by an examination of the blood, which reveals the presence of the paratyphoid bacillus. This organism presents characteristic differences in culture-media from the Eberth bacillus and, clinically, the fever which it occasions differs from typhoid in running a much shorter course, frequently ten to fourteen days. The symptoms are much milder than those observed in uncomplicated typhoid, the incubation being brief, and the attacks abrupt; usually beginning with malaise, dullness and apathy, severe headache, diarrhea followed by mild constipation, and fever rising rapidly to 104°.

The course is irregular, ending by lysis

or by crisis, with short convalescence. Relapses are rare, but complications common.

The prognosis is better than that of true typhoid fever; indeed, very seldom has a recognized case proved fatal; However, the diagnosis is often somewhat difficult because some cases are probably multiple, the Widal reaction showing the presence of typhoid, but examination of the blood, feces and urine disclosing the presence of the paratyphoid bacillus also.

The treatment is that of typhoid fever proper.

Unquestionably, under eliminative, supportive and antiseptic treatment, typhoid fever can often be aborted, or, if not, its course very materially modified. If the patient is seen early, the Typho-Bacterin should be given, and calomel, preferably with podophyllin, administered in small doses every fifteen or thirty minutes until at least three grains of the mild mercurial have been ingested. One hour later, saline laxative should be given, and repeated every two or three hours until the intestine has been thoroughly emptied. Some practicians prefer to administer an initial dose of castor oil. Our own experience leads us to prefer the saline.

The body should be sponged every three or four hours, either with cool plain water, or creolinated solution of Epsom salts. A year or two ago, a preparation (Epsaco) was devised which meets the requirements exactly.

The intestinal antiseptic should be given in 10-grain doses every two hours for at least forty-eight hours; then, if conditions are not satisfactory, double this quantity should be given every three hours. The aconitine, digitalin and strychnine combination may be given hourly from the first, if the fever is moderate; the intervals being lengthened as temperature declines. Should the pulse be extremely hard and the fever high, veratrine should be substituted for strychnine. Both the "defervescent compound" and "dosimetric trinity" are best administered in solution, and it is generally preferable to give the small dose, i. e., one-fourth to one-half granule, at frequent intervals.

During the first twenty-four to forty-eight hours, little or no food should be permitted; for the next day or two, milk and seltzer, barley water, milk and lime water, or clam bouillon may be given, and, thereafter, thin gruels, dextrinized or plain, bland soups, and milk (alkalinized always, or, in exceptional cases, peptonized). It is well to examine the stools frequently for curds, as occasionally milk in any form is not digested. Properly prepared buttermilk may well be given in these cases.

While the diet just suggested is applicable in most cases, do not yield to the "milk or die" fallacy. The proper diet in typhoid is one that will nourish, is agreeable to the patient, is easily assimilated, and will not irritate the inflamed intestinal mucosa.

The writer has found guaiacol carbonate an extremely valuable drug, and frequently gives it in combination with nuclein and calcidin, in alternation with the sulphocarbolates.

Nuclein, hypodermically, exerts a beneficial effect and, despite the dictum of those who say that drugs are of little value, we have been inclined to give echinacoid in virtually all our cases, for the simple reason that we seem to secure better results in those instances in which it is given.

Quinine, preferably the arsenate, is another useful remedial agent. Quinine ferrocyanide works more satisfactorily in some cases. During convalescence, the triple arsenates with nuclein should invariably be given.

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QUERY 6599.—"Ascites or Tympanites?" C. B. K., South Dakota, asks: "Is it common to mistake ascites for gas distention? A woman here had a distended abdomen, about the same appearance on lying down as standing up, which would indicate gas and not fluid. The confusing condition was, swelling of face and upper part of the body. The patient could not lie down part of night because of shortness of breath. I found no albumin in her urine. She had pyelitis and may have it yet; so, there could be a pyelonephritis too. Still, she seems in fairly good health now. I proposed making a puncture for fluid, but that scared her so that she went to an osteopath, and he said it was 'gas.' I wondered if you had seen any cases similar to this that would fool the 'elect.' She saw another osteopath three months before. He and the patient went to a good surgeon who said her liver was enlarged—temporary enlargement, I suppose, probably a passive congestion. I did not see her then but, as I remember, that condition of enlarged liver had gone. I do not know that she had a dilated heart. That did not seem to figure in this case, as then swelling should have come from below upward and be worse toward evening.

"The history given was swelling of eye-

lids in morning. She had numbness of hands and feet if gas formed on stomach or she was conscious of gas. I did not seem to get as much tympany as I expected on percussion, but could not get fluid level on change of position. I have to take in consideration my own shortcomings. Maybe, I overlooked things another man would find. This distention of abdomen was constant; no colicky pains. I think there must be some nephritis and there is more apt to be gas distention with pyelitis (reflex suppression of urine causing decreased function of stomach and bowels perhaps).

"I gave pill of digitalis, squill and calomel, also potassium citrate, and she started to improve. It was probably six days before she saw the osteopath; so, I don't know who is getting the credit for helping her condition. What I want to know is, if you have seen cases like this, and whether the osteopath may be right. There was some general edema, especially of face, and it changed her expression. Would one get edema with simple gas distention? Would there be more or less pain with gas distention? Would there be more or less soreness on pressure in gas distention? It is the first case of the kind I have had and the osteopath made her feel 'smart,' disregarding the interest and responsibility I took in her case."

Personally, this writer would express the opinion that it is extremely unusual for an experienced physician to mistake ascites for a tympanitic condition, or vice versa.

As you are well aware, careful palpation of the abdomen in various positions would positively reveal the absence or existence of fluid. Naturally, if there were more or less edema at other parts of the body, the examining physician might, on simple inspection, mistake a tympanitic for an ascitic abdomen, but palpation would soon reveal the true condition.

The writer remembers a somewhat similar case, in which a thoroughly competent physician diagnosed ascites and desired to do a paracentesis. The patient, in this case, called in another doctor who assured her positively that no fluid was present. A third physician, upon making an examination, inserted a trocar and settled the question very definitely by withdrawing six quarts of fluid.

Under the circumstances, we are inclined to believe that an abdominal dropsy obtained in your patient and, if any improvement followed her visit to the osteopath, it was probably due to the effect of your earlier medication. One would certainly not expect to find edema, especially of the upper extremities, accompanying simple gaseous distention. Pain might be present in the latter condition, as also might a soreness on pressure. Here, again, the main question would be: What caused the tympanitic condition?

You state that you have been unable to find albumin in this patient's urine, but that she had a pyelitis. If the kidneys were involved, and edema of the upper portion of the body existed, together with shortness of breath, your diagnosis was probably correct. The fact that an excellent surgeon examined this woman some months ago and found the liver enlarged, must be borne in mind, as, under the circumstances, abdominal ascites might well obtain.

We shall be curious to learn the outcome of this case.

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Query 6600—"Cardiospasmus or True Stenosis of Cardia?" J. Z., Indiana, writes: "I have a case of stricture of cardiac orifice of stomach. Patient, female, unmarried, age 19 years; regular in her menstruation. Appetite fairly good, fairly well nourished. Weight 110 pounds. Sleeps well, kidneys active, bowels a little sluggish. Patient cannot take any solid food; even bread crumbs cause a severe pain, followed by unconsciousness lasting from a few minutes to, sometimes, hours. Duration of trouble, fifteen months. At inception of trouble, she passed what parents supposed to be pus.

"This patient has just come under my care and past treatment has been only palliative. I am afraid to pass esophageal bougies for fear of unconscious condition or convulsions, as she had convulsion at inception of trouble. No tuberculosis, no syphilis, no injury, no swallowing of anything corrosive."

It would be unusual to find a true stenosis (organic stricture) in a patient of this age, and we are inclined to think that you probably have to deal with spasm of the cardia (cardiospasmus). As you are aware, this condition is not infrequently observed in hysteric or neurasthenic females. In such individuals, the attack usually begins suddenly and during the ingestion of food, the patient complaining of an acute pain in the region of the cardia and radiating toward the back. There may be some interference with breathing, also gagging or even vomiting; the patient feeling better thereafter. Such a condition may become more or less chronic and, though the patient, by taking a deep inspiration and compressing the thorax, while holding his breath, can force down the food, the deglutition of solid food becomes more and more difficult, and finally only liquids can

be taken. Under such circumstances, emaciation may become quite marked and, sooner or later, atonic dilatation of the esophagus results.

Such dilatation may also be produced by benign or malignant stenosis at the cardia, paralysis of the dilator nerves thereof, or by loss of reflex relaxation of the cardia.

In true stenosis (organic stricture), small sounds are more readily passed, whereas in nervous cases the resistance to the large tube is less than to the small one. It is absolutely essential, of course, to ascertain whether or no a true stenosis exists. This can only be accomplished by the passage of the esophageal bougie. The administration of bismuth and the employment of x-ray is also of value for the purpose of diagnosis, and, were we in your place, we should refer this patient to a thoroughly competent radiologist, as upon receipt of his report you will be in a position to proceed intelligently.

In ordinary cases of spasm, sounds left in place for some time prove of value, and the patient should be given small doses of hyoscyamine or the bromides, together with general tonics and reconstructives.

In chronic cases, the stomach tube should be introduced at least once a day to relax the cardia, and it may be desirable to administer food at this period. But, for a time, soft food alone should be permitted and this the patient should be instructed to masticate thoroughly before swallowing. As improvement occurs, the diet can, of course, be increased.

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QUERY 6601.—"Tetany Following Dog Bite." W. K., Bahamas, reports the case of a girl, age twenty, who was bitten by a dog at a settlement twenty-five miles from his location. After a week, she was brought to him "with the leg in a bad way." The wound was cauterized and after a while healed. "Now," our correspondent states, "seven months after, she is brought to me with paralysis agitans; the arm is useless up to the shoulder. She had spasms about every three hours at first; but, since I began treatment, she has had a spasm only about twice a day. The trouble seems to be extending up the neck. Is paralysis associated with the dog bite? She has had hyoscyamine, which seems to help, together with strychnine, calomel and iodides; good nourishment, etc. Can you make any suggestions?"

It seems very probable that the affection from which this girl is suffering must be diagnosed as a sort of tetany, or possibly a mild hydrophobia. From your history, it is extremely difficult to form any definite conclusion as to that.

It seems to us, however, that it would be the part of wisdom to give to this girl a course of antirabic treatment, through which the hydrophobic factor would, in all probability, be eliminated.

If the spasmodic contractions are dependent upon another cause, that should, of course, be determined carefully for the reason that it might make a decided difference in the treatment.

In any case, it will be well to subject the girl to an intensive clean-out by means of calomel, podophyllin and bilein, say, twelve pills one-half hour apart, and followed by Epsom salt or saline laxative. Then Epsom salt should be repeated daily, or every other day, for a while, not only because it is an efficient evacuant but also because it seems to be of great merit in the treatment of tetanic conditions. An Epsom-salt sponge bath also might be excellent or compresses applied to spasmodic contractions. For compresses, the solution should be quite concentrated, say, a heaping tablespoonful to the pint.

Aside from hyoscyamine or hyoscine to secure relaxation, you might try the effect of benzyl benzoate which acts especially upon the smooth muscular fibers. Other internal treatment can, of course, be only supportive. We do not think that strychnine is indicated here. Iodine may do good and so probably would arsenic which had best be administered in the form of sodium cacodylate by intramuscular injection, either in the upper arm or in the gluteus muscles.

So long after the original injury, it is difficult to pronounce a definite opinion. The girl will need close observation and the treatment will probably have to be largely symptomatic.